1213. Packard (J. S.), Finkelstein (H.), & Turner (W. E.). **Acute pulmonary histoplasmosis. Treatment with cortisone.**—*Arch. intern. Med.*, **99**, 3, pp. 370–375, 6 fig., 1957. [8 ref.]

A detailed report is given of the treatment of 2 cases of pulmonary *Histoplasma capsulatum* infection in men (aged 27 and 54) in Pennsylvania. Both responded to the administration of cortisone (initially at 300 mg. daily and reduced over the succeeding 2–3 weeks), the use of which should be reserved for cases with continuing toxaemia and severe prostration, and given only when there has been adequate antibody formation.

In 1 case there was strong presumptive evidence of 3 other cases of histoplasmosis in the patient's family.

1214. Jarniou (A.-P.), Kerbrat (G.), Moreau (A.), & Duval. **Histoplasmose pulmonaire africaine.** [Pulmonary African histoplasmosis.]—*Presse méd.*, **67**, 20, pp. 824–828, 1959.

African histoplasmosis (*Histoplasma duboisii*) in a 49-yr.-old Frenchman resident in French W. Africa is reported from l'Hôpital Percy and l'Hôpital de Brest, France. Undiagnosed X-ray shadows in the chest persisted for a year before pulmonary suppuration began and the fungus was isolated from the sputum. The disease was controlled by intravenous administration of amphotericin B. The epidemiology of the disease is discussed and the importance of a knowledge of the geographic origin of patients is emphasized.

1215. Mariat (F.) & Gardini-Tuesta (W. E.). **Pouvoir pathogène expérimental d'une souche d'Histoplasma capsulatum isolée du singe africain.** [The experimental pathogenicity of a strain of *H. capsulatum* isolated from the African monkey.]—*Ann. Inst. Pasteur*, **96**, 6, pp. 669–679, 1959.

Spontaneous, apparently non-fatal histoplasmosis has been noticed in 7 African monkeys (*Cynocephalus babuin*) at the Institut Pasteur, Paris. The strain of *H. capsulatum* involved was markedly less pathogenic to guinea-pigs, hamsters, and mice than human strains, though the fungus may persist for a long time in the tissues without causing apparent disease. The 'small form' of the fungus, as is found in the early stages of human African histoplasmosis [*H. duboisii*], has never been seen, but the yeast cells are 3·8–11·3 μ in av. diam. This is a useful diagnostic character for the 'monkey strain' of *H. capsulatum*.

1216. Libeau (J. R.). **La lymphangite epizootique. (État actuel de la question.)** [Epizootic lymphangitis of equines. (The present position.)]—*Bull. epiz. Dis. Afr.*, **6**, pp. 203–209, 1958. [Summarized translation pp. 173–175. 16 ref. *V. B.*, **29**, 2, p. 63, 1959.]

A review of *Cryptococcus farciminosus* [*Histoplasma farciminosum*] infection of horses under the headings of geographical distribution, etiology and transmission, diagnosis, treatment, and prophylaxis.

1217. Molese (A.) & Pane (A.). **La blastomicosi sud-americana. (Morbo di Lutz-Splendore-Almeida.)** [South American blastomycosis.]—*Acta med. ital. Mal. infett.*, **12**, 9, pp. 275–298, 29 fig., 1957. [Numerous ref.]

A general review.

1218. Passos (M. C. R.) & Nahas (Layla). **Tratamento da blastomicose sul-americana de localização pulmonar pela 6 sulfamido-2,4-dimetil-pirimidina.** [The treatment of South American blastomycosis with pulmonary lesions with 6 sulphanilamide-2,4-dimethyl-pirimidine.]—*Hospital (Rio de J.)*, **55**, 2, pp. 237–263, 1959.

A report of 3 cases treated with 12 g. the 1st day, 6 g. daily for several months, and then 4–5 g. The treatment lasted almost 1 yr. Two patients had lesions only in the lungs and the other also in the oropharynx and larynx. The pulmonary symptoms as well as the general condition of the patient improved after 2 months as did the radiological picture. Special emphasis is put on the fibrosis after healing of the pulmonary lesions, which is the cause of several disorders. The authors think that the drug is active at 5 mg. %.

1219. Almeida (A. S.), Tramujas (A.), Machado (S. M.), & Brnadão (H.). **Considerações sôbre 16 casos de localização pulmonar da blastomicose sul-americana.** [Comments on 16 cases of South American blastomycosis with pulmonary lesions.]—*Rev. bras. Tuberc.*, **25**, 198, pp. 1395–1402, 1958. [English summary.]

Of 16 cases diagnosed by sputum examination, from the States of Parana and Santa Catarina, S. Brazil, 14 showed lesions in the oropharynx. Sulphamides were administered: 6 patients improved, 2 did not, 4 died. One necropsy was made and the adrenals were involved. The authors think that excessive smoking favours the development of pulmonary lesions in *Paracoccidioides brasiliensis* infection. The biopsy of the prescalenic and cervical deep lymph nodes was made in 5 cases and *P. brasiliensis* found in 2.

1220. Sen Gupta (S. K.). **Three cases of rhinosporidiosis.**—*J. Laryngol.*, **71**, 1, pp. 56–61, 3 fig., 1957.

Clinical observations on infection by *Rhinosporidium seeberi* in males aged 23, 12, and 14 yr. from rural areas of India.

1221. Agrawal (S.), Sharma (K. D.), & Shrivastava (J. B.). **Generalized rhinosporidiosis with visceral involvement.**—*Arch. Derm., Chicago*, **80**, 1, pp. 22–26, 5 fig., 1959.

This case, a 30-yr.-old man, at the Medical College, Jagpur, India, showed haematogenous dissemination of the infection (*Rhinosporidium seeberi*) with involvement of the tongue, larynx, epiglottis, ocular tissues, liver, lungs, kidney and spleen, in addition to a generalized skin infection. It is thought to be the 2nd report of visceral involvement in this disease (cf. Rajam *et al.*, *Indian J. Surg.*, **17**, pp. 269–298, 1955).

1222. Coetzee (T.). **Rhinosporidiosis of the conjunctiva.**—*Brit. J. Ophthalm.*, **43**, 5, pp. 309–310, 3 fig., 1959. [11 ref.]

A case of infection by *Rhinosporidium seeberi* in a 10-yr.-old Bantu boy was successfully treated at Edendale Hospital, Pietermaritzburg, by excision of the pea-sized tumour, which originated on the lower left eyelid and was attached to the palpebral conjunctiva by a broad stalk, and cauterization of its bed. This is believed to be the 1st record for S. Africa of the fungus at that particular site.

1223. Mariat (F.). **Sur la teneur en acides nucléiques des formes levure et mycélienne de Sporotrichum schenckii.** [On the nucleic acid content of the yeast and mycelial forms of *S. schenckii*.]—*C. R. Acad. Sci., Paris*, **248**, 23, pp. 3468–3469, 1959.

On a chemically defined medium [**2**, No. 176] the ratio of ribonucleic to

desoxyribonucleic acid in the yeast phase of *S. schenckii* ranged from 1·4 to 0·71. This fact clearly distinguishes it from true yeasts, in which the ratio is appreciably higher, as well as from the mycelial phase of the same sp. which has a ratio of approx. 9.

1224. Shoemaker (E. H.), Bennett (H. D.), Fields (W. S.), Whitcomb (Frances C.), & Halpert (Bela). **Leptomeningitis due to Sporotrichum schenckii.**—*Arch. Path.*, **64**, 2, pp. 222–227, 6 fig., 1957.

This fatal case, a 57-yr.-old salesman at the Veterans Administration Hospital, Houston, Texas, is believed to be only the 2nd reported instance of *S. schenckii* leptomeningitis diagnosed during life [cf. Geraci, J. E. *et al.*, *Arch. intern. Med.*, **96**, pp. 478–489, 1955].

1225. Negroni (P.). **Estudios sobre la seborrea. II. El cultivo del Pityrosporum ovale.** Negroni (P.) & Briz de Negroni (C.). **III. Propiedades fisiológicas del Pityrosporum ovale.** [Studies on seborrhoea. II. The culture of *P. ovale*. III. Physiological characteristics of *P. ovale*.]—*Rev. argent. Dermatosif.*, **42**, pp. 34–38, 3 fig.; pp. 103–105, 1958. [English summaries.]

In further studies at the Facultad de Ciencias Médicas, Buenos Aires, Argentina (cf. Negroni, *Arch. argent. Derm.*, **6**, p. 159, 1956), *P. ovale* was regularly isolated from patients with seborrhoea by the use of agar broth culture enriched with olive oil, antibiotics, and 'BT complexes'. The opt. temp. for incubation was 37° C. In culture the fungus lost vitality after 3–4 weeks at this temp. possibly as a result of the accumulation of fatty acids. Traces of ferrous sulphate stimulated the oxidative metabolism of fats, as did small (up to 2 μg./ml. but not larger) amounts of steroid hormones and diethylstilboestrol. The fungus precipitates milk casein.

1226. Negroni (P.), Bustelo (C.), & Correa (F. H.). **Micosis pulmonar por Trichosporon. Segundo caso argentino.** [Pulmonary mycosis caused by *Trichosporon*. Second case in Argentina.]—*Rev. argent. Dermatosif.*, **42**, pp. 235–236, 2 fig., 1958. [English summary.]

A report from the Instituto Malbran, Buenos Aires, of another case of trichosporosis of the lung [cf. **2**, No. 219], in a woman from San Juan. Chest X-rays showed a dense patch of infiltration at the base of the right lung. The fungus, isolated from the sputum and described, is thought to be near *T. fermentans*.

1227. Ritchie (E. B.) & Pinkerton (Mary E.). **Fusarium oxysporum infection of the nail.**—*Arch. Derm., Chicago*, **79**, 6, pp. 705–708, 6 fig., 1959.

From the Dept of Dermatology, University of Texas Medical Branch, Galveston, are reported 2 stubborn cases of *F. oxysporum* infection of the thumbnail in housewives, one of whom was a keen gardener. A cure was obtained in 4–6 months with aqueous thiomersal at 1:1,000, or the tincture (cf. Piercy, *Northw. Med., Seattle*, **55**, p. 1082, 1956).

1228. Pestalozzi (C.). **Un caso di malattia dei Trebbiatori.** [A case of Thresher's disease.]—*Dermatologica*, Basel, **115**, 5, pp. 728–731, 1957. [German, English, and French summaries.]

A discussion of hypotheses regarding the etiology and pathogenesis of thresher's lung and a report on the symptoms in a 33-yr.-old farmer, from the Dermatologische Universitätsklinik, Zürich. [For a German version see *Praxis*, **46**, 49, pp. 1074–1075, 1957.]

1229. Brown (L.), Parrot (H.), & Porter (E. C.). **Farmer's lung—case report.**—*J. Maine med. Ass.*, **49**, 12, pp. 447–449, 2 fig., 1958.

An organism resembling *Geotrichum* developed in culture.

1230. Forgács (J.), Koch (H.), Carll (W. T.), & White-Stevens (R. H.). **Additional studies on the relationship of mycotoxicoses to the poultry hemorrhagic syndrome.**—*Amer. J. vet. Res.*, **19**, 72, pp. 744–753, 1 fig., 1958.

At the American Cyanamid Co., Pearl River, New York, feeding chicks with sterile grain inoculated with either *Penicillium rubrum* or *P. purpurogenum* resulted in depression of growth and death. Necropsy findings included haemorrhages, congestion of various tissues, erosion of the proventriculus and gizzard, and paleness of the bone marrow. The addition of protein-mineral-vitamin lessened the severity of the toxicosis which was even milder when chlorotetracycline was also added.

In further experiments, when moist broiler mash was inoculated with the above fungi or with *Aspergillus clavatus*, *A. flavus*, *Paecilomyces varioti*, and *Alternaria* sp. and kept at room temp., toxic substances were produced within 6 days and remained for at least 24. Necropsy findings in chicks fed with toxic mash were characteristic of the poultry haemorrhagic syndrome and of chicks ingesting infected litters. The presence of 200 p.p.m. of chlorotetracycline in inoculated feed did not result in less fungal growth in feed scattered on wood shavings litter but there was less illness in chicks maintained on such litter.

1231. Forgács (J.), Carll (W. T.), Herring (A. S.), & Hinshaw (W. R.). **Toxicity of Stachybotrys atra for animals.**—*Trans. N.Y. Acad. Sci.*, Ser. II, **20**, 8, pp. 787–808, 7 fig., 1958. [21 ref.]

Culture filtrates from 26 of 40 strains of *S. atra* [cf. **2**, No. 2245] investigated at the U.S. Army Chemical Corps, Fort Detrick, Frederick, Md, induced intradermal reactions in rabbits while 15 elicited an inflammatory response. Strains 821 and 1002, which were studied in detail, yielded ether-extractable substances causing hyperaemia, oedema, and subsequent necrosis in rabbits, cattle, and horses. The dermally toxic substance was produced by strain 1002 on wheat straw within 10 days and was still present after 414; 3 hr. ether extraction was required for its elimination from the toxic straw. The toxic factor was absorbed by activated alumina, eluted with hot chloroform or hot ethanol, and was active at 0·00175 μg./0·125 ml.

Administered orally in olive oil, the toxin induced virtually no toxic manifestations in the calf or horse, denoting a possible interference of the oil with its gastro-intestinal absorption. A water-insoluble, orally toxic substance present in infected straw was rendered water-soluble by digestion with pepsin at pH 1·5. The dermal toxicity of ether extracts varied with the strain of the fungus tested. Straw on which strain 1002 had been cultured was toxic to horses, calves, pigs, and sheep fed on it, while mice were similarly affected by infected oats. Some strains of *S. atra* lack the ability to produce toxic substances on initial testing but acquire it by serial passage on suitable media.

1232. Reichenbach-Klinke (H. H.). **Augenschaden bei Meeresfischen durch den Pilz Ichthyosporidium hoferi (Plehn et Mulsow) und Bemerkungen zu seiner Verbreitung bei Mittelmeerfischen.** [Eye damage in marine Fish by the fungus *I. hoferi* and observations on its dissemination in Fish in the Mediterranean.] —*Pubbl. Staz. Zool. Napoli*, 29, pp. 22–32, 1957. [Italian, French, and English summaries.]

On *Serranus* and *Polyprion* spp. in the Gulf of Naples. Infection of 10–20% of anchovies and pilchards is reported.

1233. Sindermann (C. J.). **An epizootic in Gulf of Saint Lawrence fishes.**—*Trans. N. Amer. Wildlife Conf.*, **23**, pp. 349–360, 1958.

Observations on *Ichthyosporidium hoferi* on herrings, alewives, and mackerel during 1954–1956.

1234. Apizidi (L. K.). Развитие гриба-возбудителя бранхиомикоза Рыбы. [The development of the fungus-causal agent of Fish branchiomycosis.]—*Veterinarya, Moscow*, **36**, 6, pp. 37–39, 6 fig., 1959.

Investigations by the Pan-Russian Scientific Research Institute for Pond Fisheries on the favourable conditions for the development of *Branchiomyces sanguinis*, isolated from infected fish from ponds in the Moscow, Ryazan', and Kalinin regions, showed that in sterile water with 0·1% citric acid the fungus develops slowly. The best medium for the development was 10% duck excrement decoction +10% gelatin and 0·1% citric acid, and pH at 5·8.

1235. Schultz (H. W.). **The synthesis of some derivatives of cinnamic acid and their antifungal action.**—*Diss. Abstr.*, **19**, 12, pp. 3283–3284, 1959.

At the State Univ. Iowa, the amide derivatives of *o*-chlorocinnamic acid and *p*-nitrocinnamic acid were compared with undecylenic acid and salicylanilide, and with 9 [unspecified] analogous derivatives of cinnamic acid, by a modified paper disc technique, with *M*[*icrosporum*] *canis*, *M. gypseum*, *T*[*richophyton*] *rubrum*, and *T. mentagrophytes* as test fungi. N-(4-chlorophenyl)-2-chlorocinnamide proved the most active against *M. gypseum*, being superior to salicylanilide and comparable with 4% undecylenic acid. Against *T. rubrum* it was again the most active derivative, but it was inferior to salicylanilide and greatly inferior to undecylenic acid. Most of the cinnamide derivatives exhibited little or no activity.

1236. Lo (H.-C.). **Fungicidal activity of Anemone against pathogenic fungi.**—*Jen Min Pao Chien*, **3**, pp. 252–257, 1959. [Abs. in *Chem. Abstr.*, **53**, 19, col. 18177g, 1959.]

The active principle in fresh sap from *A. japonica* and *A. vitifolia* was an unsaturated inner ester, a steam-volatile, greyish-yellow liquid with an irritant odour, *b.p.* 45°. On exposure to air the ester polymerized to form anemonia or higher polymers which were insoluble in water. Its fungicidal effect was weaker than that of the fresh sap, which inhibited the growth of *Histoplasma capsulatum*, *Blastomyces dermatitidis*, *B.* [*Paracoccidioides*] *brasiliensis*, and *Cryptococcus neoformans* at 0·2–0·5%. At the lower level it was also active against a range of dermatophytes.

1237. Weuffen (W.) & Pohloudek-Fabini (R.). **Zur fungistatischen Wirkung von Formaldehyd, Hexamethylentetramin und verwandten Verbindungen in vitro bei verschiedenen Wasserstoffionkonzentrationen. 1. Mitteilung: Untersuchungen über Verbindungen mit fungistatischen Eigenschaften.** [On the fungistatic effect of formaldehyde, hexamethylenetetramine, and related compounds *in vitro* at various hydrogen-ion concentrations. Note 1: studies on compounds with fungistatic properties.]—*Arzneimitt.-Forsch.*, **9**, 6, pp. 365–368, 2 graphs, 1959. [Engl. summ.]

At the Pharm.-Chem. Inst., Univ. Greifswald, Germany, HCHO, rhodoforman (VEB Serumwerk, Bernburg), hexal, neohexal (Fa. Riedel de Haën, Berlin), and angolaval (Chemische Fabrik Tempelhof, Berlin), were tested at pH 6 and, in part, at 5, 7, and 8 for their effects on cultures of *Achorion* [*Trichophyton*] *schoenleinii*, *T. plicatile*, *T. rubrum*, *T. mentagrophytes*, *Epidermophyton* [*T.*] *interdigitale*, *Trichosporon cutaneum*, *Microsporum canis*, *M. audouinii*, *Oidium* [*Candida*] *albicans*, and thrush [? *C. albicans*], isolated from an infant with interstitial pneumonia. The reactions of the fungi were little affected by pH values. All the preparations appear to be suitable for both external and internal medication, rhodoforman, hexal, and neohexal in particular exerting a strong inhibitory action on the test organisms.

1238. Emmons (C. W.) & Piggott (W.). **Amphotericin B and griseofulvin in the treatment of experimental systemic mycoses.**—*Antibiot. & Chemother.*, **9**, 9, pp. 550–556, 1959.

In this study from the Nat. Inst. Allergy and Infectious Diseases, Nat. Inst. Health, Bethesda, Md, experimentally induced blastomycosis (*Blastomyces dermatitidis*), histoplasmosis (*Histoplasma capsulatum*), cryptococcosis (*Cryptococcus neoformans*), and coccidioidomycosis (*Coccidioides immitis*) in mice have been treated with crystalline or solubilized amphotericin B or griseofulvin and the effect studied of the drugs on survival time and the presence or absence of fungus in the tissues of surviving mice. Survival times with crystalline amphotericin B were extended but the fungi could be found in the tissues of surviving animals. Dosage of the solubilized drug necessary to give an extended survival time was itself toxic. Griseofulvin [see **3**, No. 1274–1284], either orally or i.v., had no influence on the course of the above infections.

1239. Burns (J.) & Holtman (D. F.). **Tennecetin : a new antifungal antibiotic. General characteristics.**—*Antibiot. & Chemother*, **9**, 7, pp. 398–405, 4 fig., 1959. [11 ref.]

Details are given from Tennessee Univ., Knoxville, Tenn., of the isolation of tennecetin from the culture filtrate of a *Streptomyces* sp. and of its chemical and physical properties, as far as determined from the impure preparation at present available. It is a tetraene and exhibits a wide antifungal spectrum, *in vitro*, including many pathogenic fungi. Preliminary observations indicate that it has a relatively low toxicity for animals and man.

1240. Shorin (V. A.) & Gol'dberg (L. Y.). **The antifungus antibiotic nystatin and its clinical use.**—*Int. Rec. Med.*, **172**, 6, pp. 310–317, 1959. [45 ref.]

A translation of a critical review originally published in Russian in *Klinicheskaya Meditsina*, **35**, 32–38, 1957.

1241. Petrů (M.) & Havlík (B.). **Essigfliegen gefährden Hefekulturen.** [Vinegar Flies endanger yeast cultures.]—*Zbl. Bakt.*, Abt. 1 (*Orig.*), **176**, 1–2, pp. 157–159, 1959. [Engl., Fr., Span., Russ. summ.]

At the Parasitologisches Institut, Charles Univ., Prague, cultures several days old of *Candida albicans*, *C. pseudotropicalis*, *C. krusei*, and other yeasts have been contaminated by *Drosophila melanogaster*, the activity of which is not impeded by darkness within the incubator. The yeasts are indispensable for oviposition and larval development. It is pointed out that this form of accidental contamination may lead to diagnostic errors.

1242. Haufe (Ursula) & Haufe (F.). **Der Nachweis von Pilzelementen in ungefärbten histologischen Präparaten durch das Phasenkontrastverfahren.** [The demonstration of fungus elements in unstained histological preparations by the phase-contrast procedure.]—*Derm. Wschr.*, **138**, 45, pp. 1217–1220, 1958.

At the Univ. Hautklinik, Greifswald, Germany, the segmentation of a hypha of *Candida albicans* and the germination of a spore of *Absidia lichtheimii* on rabbit kidneys and the peripilar spore mosaic of *Trichophyton* sp. on guinea-pig skin were clearly demonstrated by the above-mentioned method. Besides frozen sections of fresh or formol-fixed material, embedding in glycerin or glycerin-gelatin gave satisfactory results.

1243. Marwin (R. M.). **Survey of surface-active culture additives for growth of pathogenic human fungi.**—*Mycologia*, **51**, 1, pp. 61–68, 1959.

At the Sch. Med., Univ. N. Dakota, Grand Forks, it was found that 0·1 ml. of

nonisol 100; 0·3 ml. of polyethylene glycol 400 monolaurate; 0·2 ml. of mulsor 224; and 0·2 ml. of pluronic L64, incorporated separately, after dilution, into 100 ml. of Sabouraud's dextrose agar, each accelerated the growth of *Blastomyces dermatitidis*, *Microsporum audouinii*, *Candida albicans*, *Epidermophyton floccosum*, *Sporotrichum schenckii*, *Trichophyton mentagrophytes*, *Cryptococcus neoformans*, *T. rubrum*, and *Histoplasma capsulatum*.

1244. Monash (S.) & Roth (F. J.). **The effect of X-rays, Grenz rays, Thorium-X, and radioactive phosphorus on superficial mycotic agents.**—*Arch. Derm., Chicago*, **80**, 3, pp. 288–293, 4 fig., 1959.

At the Univ. Miami Sch. Med., 'pellets' of 12 dermatophyte spp. [which are specified], obtained by a shake culture technique, were exposed to either Grenz rays or X-rays, or were placed in solutions of thorium X or P^{32} for 24 hr., before washing and plating out on Sabouraud's agar. Growth was subsequently observed at 24-hr. intervals. The results, which are tabulated, showed that all forms of irradiation caused inhibition of growth. With some strains sub-inhibitory doses had a stimulatory effect, giving rise to accelerated growth and increased conidial production. After near-lethal doses there was a reduction in the numbers of clearly distinguishable morphological entities. The dose giving complete inhibition of dermatophytes was, for X-rays, 200,000–300,000 r, and, for Grenz rays, 390,000–600,000 r. By contrast, growth of *Candida albicans* was completely inhibited by 190,000 r of Grenz rays.

1245. Novak (E. K.). **Malonic acid as the single carbon and energy source of pathogenic fungi.**—*Acta microbiol. hung.*, **6**, 1, pp. 1–4, 1 fig., 1959.

Of 24 spp. tested at the State Inst. Hygiene, Budapest, 20 utilized malonic acid at pH 5 and 6: they included *Allescheria boydii*, *Hormodendrum compactum* [*Phialophora compacta*], *P. verrucosa*, *Aspergillus fumigatus*, *Geotrichum candidum*, *Candida albicans* (see also K. Novak, *ibid.*, **6**, 2, pp. 117–123, 1959) and 6 other *C.* spp., and *Cryptococcus neoformans*.

1246. Tubaki (K.) & Soneda (M.). **Cultural and taxonomic studies on Prototheca.**—*Nagaoa*, **6**, pp. 25–34, 1 pl. (8 fig.), 1959.

From studies at the Nagaoa Inst., Tokyo, it is concluded that the yeast-like *Prototheca* is more nearly related to Fungi than Algae. Four spp., including the new *P. wickenhamii* Tub. & Son., are recognized and briefly described.

1247. Rieth (H.). **Hugo Carl Plant zum Gedächtnis.** [In memory of Hugo Carl Plant.]—*Bull. pharm. Res. Inst., Osaka*, 16, pp. 36–37, 2 fig., 1958.

A tribute to the work of this early student of medical mycology, born in Leipzig in 1858, who founded the Forschungsinstitut für Schimmelpilze und Hefen at Eppendorf in 1912. On his death in 1928 the Institute was incorporated into the Universitäts-Hautklinik, Eppendorf. [A similar account appears in *Hautarzt*, **10**, 2, pp. 89–90, 1959.]

1248. Rodriguez (J. D.). **Revisión de las micosis profundas en el Ecuador.** [A review of deep mycoses in Ecuador.]—*Rev. ecuat. Hig.*, **15**, 4, pp. 177–188, 1958.

During the last 10 yr. more than 20 cases of South American blastomycosis (*Paracoccidioides brasiliensis*) have been diagnosed, several cases of histoplasmosis (*Histoplasma capsulatum*) have been recognized, and moderate to high percentages of skin reactors to histoplasmin have been found. Five cases of chromoblastomycosis (*Phialophora* spp.), 2 of rhinosporidiosis (*Rhinosporidium seeberi*), 1 of cryptococcosis (*Cryptococcus neoformans*), and 4 of mycetoma pedis are also noted.

The existence of coccidioidomycosis (*Coccidioides immitis*) is considered as probable in some valleys.

1249. Swierstra (D.), Jansen (J.), & Van den Broek (E.). **Parasites of Animals in the Netherlands. Survey of identified parasites of domestic and free-living Animals and fecal examinations in the years 1948–1958 inclusive.**—*Tijdschr. Diergeneesk.*, **84**, 16, pp. 892–900, 1959. [Dutch, Fr., Germ. summ.]

This paper from the Inst. Veterinary Parasitology and Parasitic Diseases, State Univ., Utrecht, comprises a brief introduction followed by a list of the recorded parasites of domestic, laboratory, and wild animals in the Netherlands. Results from faecal examinations of domestic animals are tabulated separately. The fungi mentioned [no details] are *Mucor pusillus*, *Absidia* spp., and *Aspergillus fumigatus* in the horse; *Absidia ramosa*, *Aspergillus* spp., and *Sporotrichum carougeaui* in cattle; *A. ramosa* and *Geotrichum candidum* in the pig; *Candida guilliermondii* in the dog; *Trichophyton asteroides* [*T. mentagrophytes*] in the mouse; *Aspergillus fumigatus* in the pigeon and in the duck; and *Saccharomyces guttulata* in *Oryctolagus cuniculus*.

1250. Soneda (M.). **Studies on animal-dung inhabiting yeast.**—*Nagaoa*, **6**, pp. 1–24, 31 fig., 1 pl., 1959.

Examination at the Nagaoa Inst., Tokyo, of 53 samples of dung from 38 different animals [cf. **3**, No. 452], collected in zoological gardens and at the foot of Mt Fuji, yielded 68 yeast strains representing 20 spp. (of which 5 are proposed as new). Dung from carnivorous animals yielded relatively few yeasts compared with that from omnivorous and graminivorous animals. *Rhodotorula* was only isolated from graminivorous animals, *Kloeckera* only from wild animals.

1251. El-Fiki (A. Y.). **Pilzerkrankungen bei Haustieren und ihre Bedeutung als Infektionsquelle für den Menschen.** [Fungus diseases in Domestic Animals and their significance as a source of infection for Man.]—*Zbl. Vet.-Med.*, **6**, 6, pp. 505–537, 10 fig., 1959. [Engl., Span., Fr. summ.]

In this doctoral dissertation from the Tierärztliche Hochschule, Hanover, the author lists the known systemic and subcutaneous mycoses, and dermatomycoses, of domestic and experimental animals, briefly discussing the classification of the pathogenic fungi, and diagnostic techniques. Of 4056 animals examined in attempts to trace the sources of human infections, 516 were affected with dermatomycoses. Among the infections observed were *Trichophyton verrucosum* in cattle, *T. mentagrophytes* in mice and rabbits, and interdigital moniliasis (*Candida albicans*) in a dog.

1252. Frágner (P.). **Pathogenní kvasinky v mlékárenském průmyslu.** [Pathogenic yeasts in the milk industry.]—*Čes. Mykol.*, **13**, 3, pp. 160–163, 1959. [Germ. summ.]

At the Prague Hygen-Epidemiological Sta., Czechoslovakia, the following pathogenic (or suspected pathogenic) yeasts were isolated from milk products: *Candida albicans*, *C. pseudotropicalis*, *Saccharomyces fragilis*, *C. krusei*, *C. tropicalis*, *C. intermedia*, *C. guilliermondii*, *C. parapsilosis*, *C. pelticulosa*, *Hansenula anomala*, *Trichosporon cutaneum*, and *Endomyces lactis* [*Geotrichum candidum*].

It is suggested that milk products could become sources of infection for man, although so far there is no record of this happening. Recommendations for preventive measures against infection of milk and milk products are given.

1253. Howell (A.), Murphy (W. C.), Paul (F.), & Stephan (R. M.). **Oral strains of Actinomyces.**—*J. Bact.*, **78**, 1, pp. 82–95, 6 fig., 9 graphs, 1959.

In a comparison at the Nat. Inst. Dental Res., Bethesda, Md, of the morphological

and cultural characteristics of 200 oral strains of *Actinomyces* and 11 strains from lesions of actinomycosis, it was found that the oral strains were of 2 main types, the 1st corresponding to *A. naeslundii* [**1**, No. 2058: cf. also L. P. Garrod, *Tubercle, Lond.*, **33**, pp. 258–266, 1952], and the 2nd essentially identical with the isolates from the lesions (*A. israelii*).

It is recommended that the name *A. naeslundii* be accepted for the fast-growing, facultative type of *Actinomyces*.

1254. Heinrich (S.) & Pulverer (G.). **Zur Ätiologie und Mikrobiologie der Aktinomykose. III. Die pathogene Bedeutung des Actinobacillus actinomycetem-comitans unter den 'Begleitbakterien' des Actinomyces israelii.** [On the etiology and microbiology of actinomycosis. III. The pathogenic significance of *A. actinomycetem-comitans* among the 'accompanying bacteria' of *A. israelii*.]—*Zbl. Bakt.*, Abt. 1 (*Orig.*), **176**, 1–2, pp. 91–101, 1959. [Engl., Fr., Span., Russ. summ. 20 ref.]

The results of further studies at the Hygienisches Institut, Univ. Cologne [**3**, No. 1109] confirmed the facultative pathogenicity of the bacillus, which forms part of the normal oral flora and appears to be specially concerned in the causation of actinomycosis.

1255. Pine (L.) & Hardin (H.). **Actinomyces israelii, a cause of lacrymal canaliculitis in Man.**—*J. Bact.*, 78, 2, pp. 164–170, 10 fig., 1959.

From the Dept Microbiol., Duke Univ. med. Center, Durham, N. Carol., the authors give a detailed description of the cultural characteristics of 2 strains of *A. israelii*, isolated from cases of lacrymal canaliculitis [cf. **2**, No. 228]. Both strains were smooth, and one fermented glucose, forming large amounts of propionic acid. It is pointed out that such infections may be primary, or occur in the course of a generalized infection.

1256. Wayl (P.), Rakower (J.), & Hochman (A.). **Pulmonary ray fungus disease; clinical aspects and pathogenesis.**—*Dis. Chest*, **34**, 5, pp. 506–513, 4 fig., 1958. [Span., Fr., Germ. summ.]

From the Rothschild Hadassah Univ. Hosp., Jerusalem, are presented 5 cases of pleuro-pulmonary infection by actinomycetes (2 by *Actinomyces israelii*; 1, *Actinomyces* sp.; 2, *Nocardia* sp.). In 2 the clinico-radiological aspects were of chronic suppurative pneumonitis, while the remainder exhibited acute and unresolved broncho-pneumonia, unresolved middle-lobe pneumonia, and retrosternal fluid collection with pleural involvement. Three had severe periodontal infection. In 3 cases the lungs were probably involved by way of bronchial aspiration, and in the remainder by direct spread from the mediastinum and by haematogenous spread. All of 4 patients given antibiotic treatment from the onset of disease were cured.

1257. Larsen (Martha C.), Diamond (H. D.), & Collins (H. S.). **Nocardia asteroides infection. A report of seven cases.**—*Arch. intern. Med.*, **103**, 5, pp. 712–725, 2 fig., 2 graphs, 1959.

The cases were treated at the Memorial Center for Cancer and Allied Diseases, New York, during 1952–57. In 3 of the 5 with co-existent neoplastic disease cure was attributed to extirpation of the infectious lesion. Death was ascribed primarily to nocardiosis in 2 patients and to cancer in another 2. The results of tests for sensitivity *in vitro* of isolates from these cases to various antibiotics, notably streptomycin, erythromycin, and novobiocin, suggest that strain variations imperceptible by standard bacteriological procedures may be detected by this method.

1258. Cormane (R. H.), Plankensteiner (R.), & Holland (M. L.). **Observations concerning the influence of micrococci upon Monosporium apiospermum.**—*J. invest. Derm.*, **33**, 2, pp. 75–80, 5 fig., 4 graphs, 1959.

At Leyden Univ. Hosp., Netherlands, growth of *M. apiospermum in vitro* was inhibited by both *Micrococcus pyogenes* var. *albus* and *M. pyogenes* var. *aureus*. The authors conclude that the inhibitory capacity of micrococci is determined partly by their number and the properties of the strain, and partly by the composition of the medium, e.g. the glucose content in the case of bouillon agar. As the skin is a medium poor in glucose and rich in protein, no inhibition of the fungus by bacteria can be expected *in vivo*.

1259. Davies (A. G. M.). **The bone changes of Madura foot. Observations on Uganda Africans.**—*Radiology*, **70**, 6, pp. 841–847, 6 fig., 1958. [Interlingua summ.]

The radiological picture in 21 patients admitted to Mulago Hosp., Kampala, Uganda, during the last 5 yr. is described. The principal features of the common type of the disease comprise deep soft-tissue swelling, often with superficial nodules; irregular external destruction round the periphery of the affected bones (usually tarsals); sinuses within the spongiosa; a periosteal reaction tending to resemble a palisade or the bristles of a brush; sclerosis of the spongiosa; osteoporosis distal to the affected bones; and absence of true sequestra.

1260. Seabury (J. H.), Kroll (V. R.), & Landreneau (R.). **A conservative method of treatment for maduromycosis.**—*Sth. med. J.*, **52**, 10, pp. 1176–1181, 4 fig., 1959.

A report from the Charity Hosp., New Orleans, on the successful treatment of infection of the right hand of a 47-yr.-old negro by *Allescheria boydii*, contracted through an injury 6 or 7 yr. earlier, by a combination of conservative surgery and therapy with β-diethylaminoethyl fencholate.

1261. Ueckert (H.). **Beitrag zur Systematik der Dermatophyten.** [Contribution to the systematics of the dermatophytes.]—*Zbl. Bakt.*, Abt. 1 (*Orig.*), **176**, 1–2, pp. 102–156, 6 fig., 3 graphs, 1959. [Engl., Fr., Span., Russ. summ. 153 ref.]

This thesis from the Free Univ., Berlin, comprises extensive information on the historical development of the dermatophytes and their cultural and morphological characters as revealed by intensive studies on monospore cultures of 19 spp. on 3 nutrient media at 23±1° C. A key was devised on the basis of the findings.

The following spp. were isolated from the interdigital spaces of the feet in 53 of 200 persons (26·5%): *T. mentagrophytes* (21), its var. *persicolor* (10), *T. rubrum* (18), and *E. floccosum* (4).

The proposed classification comprises a new tribe Microsporeae within the order Moniliales, family Moniliaceae, comprising the genera *Microsporum*, represented by 4 spp., *Trichophyton* (13), and *Epidermophyton* (1). The combination *T. mentagrophytes* (Robin) Blanch. var. *persicolor* (Sab.) Ueckert is formally proposed.

1262. Solomons (B.). **Cattle ringworm in Eire.**—*J. Irish med. Ass.*, **4**, 237, pp. 90–92, 2 graphs, 1 map, 1957.

Replies from 315 doctors in every county of Eire except Co. Dublin to a questionnaire revealed that they saw 2,767 cases of ringworm a year with a history of contact with cattle. The seasonal distribution was spring 40·2%, summer 14·1%, autumn 18·6%, winter 27·1%. The 10–15 and 15–20 yr. age groups had the highest incidence and the percentage distribution of lesions was arms and wrists, 39·5, hands 27·9, head 28·4, legs and other parts 4·2. In Co. Dublin there were 6–8 cases of

ringwormin every 500 new cases. *Trichophyton discoides* [*T. verrucosum*] was the commonest organism, *T. mentagrophytes* accounting for 5% of the positive cultures.

1263. Esteves (J.). **Sur l'epidémiologie de la teigne du cuir chevelu au Portugal.** [On the epidemiology of tinea capitis in Portugal.]—*Ann. Derm. Syph., Paris*, **86**, 4, pp. 379–382, 1959. [20 ref.]

The ailment constitutes an epidemiological and sanitary problem [**3**, No. 312], involving 5–8% of the juvenile population. *Trichophyton violaceum* is the principal agent (60–70% of all cases), followed by *Microsporum canis*, *T. tonsurans*, and *T. schoenleinii* (10%).

1264. Grimmer (H.). **Die Epidemiologie der Berliner. Epidermophyton in den Jahren 1952–59.** [The epidemiology of epidermophytoses in Berlin in the years 1952–59.]—*Z. Haut- u. Geschlechtskr.*, **27**, 2, pp. 33–44, 3 graphs, 1959.

Distributional statistics, based on 751 isolations, are critically discussed, and compared with those of 3 other regions of W. Germany, viz., Hamburg, Münster (Westphalia), and Upper Bavaria, and foreign countries, i.e. Switzerland, Holland, Great Britain and N. Ireland, Singapore, U.S.A. (New York), Turkey (Ankara), and U.S.S.R. (Moscow). In Berlin the incidence of *Trichophyton rubrum* rose during the period under review from 30 to 67% while that of *T. mentagrophytes* fell from 70 to 33; the percentage of *Epidermophyton floccosum* was only 0·68.

1265. Grin (E. I.) & Ozegovic (L.). **Problemi attuali delle dermatomicosi in Iugoslavia.** [The present problems of the dermatomycoses in Yugoslavia.]—*Minerva med., Torino*, **50**, 33, pp. 1245–1251, 1 fig., 2 graphs, 2 maps, 1959. [35 ref.]

Much of the information in this review of human and animal dermatomycoses (the former caused mainly by *T*[*richophyton*] *schoenleinii* and *T. violaceum*, the latter by *T. verrucosum* and, to a much less extent, by *T. mentagrophytes*) in Yugoslavia has been covered by an earlier paper [**3**, No. 614].

1266. Kuhl (Ivan W.). **Ringworm of the scalp in the delta of the Rio Grande.**—*Arch. Derm., Chicago*, **80**, 2, pp. 202–204, 1959.

In a 2-yr. study in the semi-tropical delta of the Rio Grande 271 cases of tinea capitis, confirmed by culture, were seen, of which 203 were due to *T*[*richophyton*] *tonsurans*, 59 to *M*[*icrosporum*] *canis*, and 8 to *T. violaceum*. Most of the patients were Latin Americans (79% of all cases; 85% of cases of *T. tonsurans*) but this is not taken to indicate a specific susceptibility in the group. These findings confirm Pipkin's designation of South Texas as an endemic area of *T. tonsurans* scalp infection [cf. **1**, No. 2502].

1267. Srivastava (O. P.) & Gupta (R. N.). **Survey of human skin fungi in Lucknow and the effect of diaryl sulphones, sulphoxides and sulphides on Trichophyton rubrum.**—*J. sci. industr. Res.*, **17** C, 5, pp. 87–90, 1958.

At the Lucknow and K.G. Medical College, of 173 patients clinically diagnosed as having fungal infection of the skin 61·8% yielded fungal cultures. *T. rubrum* (23·1% of cases) was the dominant dermatophyte. *T. mentagrophytes* was also encountered (14·4%). Yeast-like fungi [not yet identified] were very common in the group provisionally diagnosed as moniliasis, but were also obtained from the other groups.

Of 31 asymmetrical diaryl sulphones, sulphoxides, and sulphides examined *in vitro* for activity against *T. rubrum*, a copper chelate of sulphone hydrazide, 2 sulphoxides (4 amino-4'-methylaminodiphenyl sulphoxide and 4-amino-4'-amylaminodiphenyl sulphoxide) and 3 sulphides (4,4'-diamino diphenyl sulphide, 4-amino-4'-methylamino-diphenyl sulphide, and 4-amino-4'-ethylamino-diphenyl

sulphide) completely inhibited growth at 1%. The sulphides were superior to nycil but inferior to undecylenic acid.

1268. Mandel (E. H.). **Tinea capitis ; effects of nutritional studies.**—*Arch. Derm., Chicago*, **80**, 3, p. 346, 1959.

In a residential children's centre in New York 14 of 25 cases of tinea capitis (*Microsporum audouinii* type) diagnosed over a 1 yr. period were in children who had been at the centre from 2–10 months. Intimacy of contact is considered to be the explanation. The children's diet at the home was without doubt superior to that which they had before.

1269. Blaschke-Hellmessen (Renate). **Ungewöhnliche morphologische Veränderungen bei pathogenen Hautpilzen durch antimykotisch wirkende aerobe Sporenbildner.** [Unusual morphological changes in pathogenic dermatophytes induced by aerobic spore-formers with antimycotic activity.]—*Zbl. Bakt.*, Abt. 1 (*Orig.*), **175**, 3–4, pp. 282–305, 19 fig., 1959. [Engl., Fr., Span., Russ. summ. 13 ref.]

At the Technische Hochschule, Dresden, the addition to cultures of *Trichophyton mentagrophytes*, *T. rubrum*, *T. tonsurans*, *Microsporum canis*, and *Epidermophyton floccosum* of culture filtrates of *Bacillus subtilis* resulted in the development on the fungal mycelia of hitherto undescribed spherical bodies, up to 65 μ diam. They are believed to represent stimulation or inhibition reactions to the specific metabolic products of *B. subtilis*, since they failed to appear under the influence of other organisms and various disinfectants. Even 48-fold dilutions of 14–18-day-old cultures of the bacterium were active in the production of the structures.

Of other moulds tested, only a strain of *Alternaria* reacted to contact with *B. subtilis* by the formation of similar but smaller bodies (15–28 μ).

1270. Vicher (E. E.), Lyon (I.), & White (E. L.). **Studies on the respiration of Trichophyton rubrum.**—*Mycopathologia*, **11**, 3, pp. 185–195, 1 graph, 1959.

In studies at the Dept Microbiol., Univ. Illinois Coll. Med., Chicago, the morphological characteristics of *T. rubrum*, in culture on a glucose medium, resembled those of the fungus in infected nails and skin.

The O_2 uptake expressed as QO_2AIR (i.e. the number of ml. O_2 consumed/hr./mg. dry wt., in air), appeared to be a reflexion of the 'functional mass', i.e. the mass of the metabolically active organelles (mitochondria, microsomes, etc.) present. The activity was highest in subcultures at 3–5 days, and was much lower in younger subcultures: in older cultures it fell to a steady level after 10–14 days and then remained unchanged for the remainder of the 28 days of study. Propionic, octanoic, nonanoic, and undecylenic acids, and sodium undecylenate, gave significant inhibition of respiration. The effect of KCN, stimulatory at low concentration and inhibitory at high, suggested that the fungus possesses alternative metabolic pathways for the terminal oxidation of various substrates, one being cyanide-sensitive and the other not.

1271. Fischer (E.). **Der Einfluss von Schweiss und pH auf das Wachstum hautpathogener Pilze.** [The influence of sweat and pH on the growth of dermatophytes.]—*Dermatologica, Basel*, **118**, 4–5, pp. 197–202, 4 fig., 1 graph, 1959. [Engl., Fr. summ.]

A comparative investigation at the Dermatologische Universitätsklinik, Zürich, of the dry weights after 8½ weeks in culture on peptone-glucose-water of strains of *Epidermophyton* Kaufmann-Wolf [*Trichophyton interdigitale*], *E.* [*T.*] *rubrum*, and *T. gypseum* [*T. mentagrophytes*] of animal origin established an opt. pH of 5, with a reduction in growth as neutrality was approached which was virtually parallel

in the 3 strains. On horn-sweat agar and on sweat alone the behaviour of the human and animal strains did not differ significantly.

1272. Hejtmánek (M.) & Dadák (V.). **Protiplísňový účinek pýru plazivého Agropyrum repens (L.) P. Beauv.** [Antimycotic effect of Couch (*A. repens*).]—*Čes. Mykol.*, **13**, 3, pp. 183–188, 2 fig., 1959. [Germ. summ.]

Experiments at Brno Univ., Czechoslovakia, showed that the ether extracts from the roots of *A. repens* possess antibiotic properties against *Candida*, *Epidermophyton*, *Keratinomyces*, *Microsporum*, and *Trichophyton* spp.

1273. Srivastava (O. P.). **Antifungal activity of some sulphur containing compounds against dermatophytes and yeast-like fungi.**—*J. sci. industr. Res.*, **18** C, 2, pp. 25–28, 1959.

The above-mentioned S compounds and a K salt of benzyl isothiocyanate sulphonic acid were tested in comparison with undecylenic acid against *T. rubrum*, *T. sulphureum*, *T. mentagrophytes*, *Microsporum audouinii*, *M. gypseum*, *Candida albicans* [**3**, No. 705], *Geotrichum* sp., and *Trichosporon cutaneum*. The isothiocyanate completely inhibited the growth of all the spp. except *M. audouinii* and was superior to undecylenic acid even at the min. conc. of 0·2%. The 3 *Trichophyton* spp., *G.* sp., and *Trichosporon cutaneum* were inhibited by *p*-methylaminodiphenyl-*p*'-aminodiphenyl and *p*-ethylamino-*p*'-aminodiphenyl sulphides at high conc. Diaminodiphenyl sulphide and the 2 sulphoxides were effective against the 3 *Trichophyton* spp. only at the max. conc. 10%.

1274. Rieth (H.) & Ito (K.). **Griseofulvin, ein oral wirksames antimykotisches Antibiotikum.** [Griseofulvin, an antimycotic antibiotic, effective by mouth.]—*Bull. pharm. Res. Inst., Osaka*, 22, pp. 21–26, 1959.

A short general account.

1275. Bedford (Carole), Child (K. J.), & Tomich (E. G.). **Spectrophoto-fluorometric assay of griseofulvin.**—*Nature, Lond.*, **184**, 4683, Suppl. 6, pp. 364–365, 3 graphs, 1959.

The method described is used at the Glaxo Laboratories, Greenford, Middlx, in studies of the absorption, distribution, and excretion of griseofulvin in laboratory animals and man.

All glassware must be cleaned in chromic acid and rinsed with distilled water and 1% ethanol. A small sample (1 ml. or less) of blood, plasma, serum or urine is mixed with 1 ml. of 1% ethanol and shaken for 15 sec. with 10 ml. of ether. 8 ml. of the ether phase are evaporated to dryness, the residue dissolved in 10 ml. of 1% ethanol, and the fluorescence of the solution measured against a griseofulvin standard (0·5 μg./ml.) at the same temp. Pre-dosage samples of blood, plasma, serum, or urine, with or without added griseofulvin, are included in each set of assays. Blood, plasma, and serum have similar blank values, varying little between individuals or spp. (rat, guinea pig, rabbit, man): percentage recovery of the antibiotic added to heparinized blood at 1–5 μg./ml. averaged 96±S.E. 1·4 in 25 assays, while for 10 μg./ml. it was 84±1·1. Blank urine values, however, differ greatly, both between individuals and between samples from one and the same individual at different times: most difficulties are overcome by raising the pH of the urine to approx. 10 before extracting with ether. Percentage recovery of the antibiotic added to urine at conc. in the range 1–5 μg./ml. averaged 90±2·9 in 30 assays.

Results of spectrophotofluorometric assays of serum levels in 3 volunteers for 24 hr. after oral dosage (1 dose, 0·5 g.) were in good agreement with those obtained by microbiological assay (tube assay with *Microsporum canis*).

In 2 groups of 3 patients given single oral doses of 1 and 2 g., respectively, the av. amounts in the urine during the 1st 8 hr. after administration were 0·5 and 0·6 mg., respectively.

1276. Cochrane (T.) & Tullett (A.). **Griseofulvin treatment of acute Cattle ringworm infections in man.**—*Brit. med. J.*, **2**, 5147, pp. 286–287, 1959.

A tabulated clinical report on 16 cases of cattle ringworm (*Trichophyton verrucosum*) in man, successfully treated with griseofulvin, is made from the Heathfield Hosp., Ayr. A daily dose of 1 g. was satisfactory (2 g. caused gastro-intestinal upsets in 2 patients) and shortened the duration of treatment of inflammatory ringworm of the beard and scalp by about 6 weeks, irrespective of the duration of the infection. Another 9 cases of ringworm of various parts of the body, caused by *T. rubrum*, *T. schoenleinii*, and *Microsporum audouinii* are being successfully treated with the antibiotic.

1277. Beare (M.) & Mackenzie (D.). **Griseofulvin in treatment of infections of the scalp due to Microsporum canis.**—*Brit. med. J.*, **2**, 5160, pp. 1137–1140, 1 fig., 1959.

At the Royal Belfast Hosp. for Sick Children, 19 children, aged 15 months–12 yr., with *Microsporum canis* infections of the scalp were treated orally with 0·25 g. griseofulvin 3 times daily for 3½–10 (av. 6) weeks. Observations on the duration of the infection, behaviour under Wood's light, the time needed to obtain negative cultures, duration of treatment and side effects are tabulated. The side effects on 31 other cases similarly treated were noted and a detailed case report so made.

Differences in the behaviour of the children's hair under Wood's light to that of guinea-pigs' hair, as observed by Gentles, are discussed.

Though no fresh lesions developed during treatment routine cultures of hair, scales and debris were positive for 3–14½ weeks after it was started and it is suggested that 3 consecutive negative cultures and microscopical examinations made at weekly or longer intervals should be obtained before the patient is considered free from infection. Griseofulvin caused nausea in 2 cases.

1278. Barlow (A. J. E.), Chattaway (F. W.), Hargreaves (G. R.), & La Touche (C. J.). **Griseofulvin in treatment of persistent fungal infections of the skin.**—*Brit. med. J.*, **2**, 5160, pp. 1141–1143, 1959.

This is a joint report from the Royal Infirmary, Huddersfield, and the General Infirmary, Leeds, on 34 patients, 26 with long-standing infections, treated orally with 1–2 g. griseofulvin daily.

Two men with *Trichophyton verrucosum* infections derived no significant benefit. Infection by *T. mentagrophytes* in 1 patient cleared after 4 weeks' treatment. Of 2 cases of *T. rubrum* infection of the smooth skin, one cleared completely and the other improved after 3 weeks' treatment. The majority of 26 patients with long-standing *T. rubrum* infections with nail involvement treated for periods of 3–24 weeks improved; only 1 was cured.

Two children with candidiasis (*Candida albicans*) and 1 man with tinea versicolor (*Malassezia furfur*) showed no improvement.

Toxic reactions are recorded and possible reasons for the wide variation in clinical response discussed.

1279. Meenan (F. O. C.) & O'Connell (L. G.). **Preliminary clinical observations on griseofulvin.**—*Irish J. med. Sci.*, Sixth Ser., 404, pp. 359–363, 1959.

This is a joint report from St. Anne's and the Children's Hospitals, Dublin, on the beneficial effects of oral therapy with griseofulvin in a series of 24 cases (some still under treatment) of tinea in various forms associated with *Trichophyton verruco-*

sum, *T. tonsurans*, *T. schoenleinii* [see below], *Microsporum audouinii*, and *M. canis*.

1280. Mitchell (A. D.) & Mitchell (D. M.). **Griseofulvin in the treatment of favus.**—*Irish J. med. Sci.*, Sixth Ser., 404, pp. 363–364, 1959.

A report from the Adelaide Hosp., Dublin, on the remission and probable cure of infection of the legs and scalp due to *Trichophyton schoenleinii* in a 30-yr.-old woman by the oral administration of griseofulvin [see above] daily at 2 g. for nearly 3 months and 1 g. for a further month.

1281. Sagher (F.), Raubitschek (F.), & Axelrad (B.). **Griseofulvin treatment of tinea capitis due to T. violaceum.**—*J. invest. Derm.*, **33**, 3, pp. 85–86, 1959.

This is a report from the Dept of Dermatology and Venereology, Hadassah Univ. Hosp., Jerusalem, of tinea capitis (*Trichophyton violaceum*) in 2 girls, aged 5 and 7 yr., who were given griseofulvin orally as hospital in-patients. Clinical and microscopic cure was obtained after 92–200 days. There were no serious toxic reactions, though active shedding of infected hairs did occur during the early stages of treatment.

1282. Arnold (H. L.). **Oral treatment of ringworm with griseofulvin. Preliminary report.**—*Straub Clin. Proc.*, **25**, 3, pp. 53–55, 1959.

Encouraging results in the treatment of infection, e.g. by *Trichophyton rubrum*, *T. mentagrophytes*, and *Microsporum canis*, in 14 patients are reported from Honolulu. The drug was administered at 1 g. daily for a fortnight (or longer in a few instances).

1283. Kirk (Jacquelyn). **Use of griseofulvin in the therapy of tinea capitis in Children.**—*Arch. Derm., Chicago*, **80**, 3, pp. 259–267, 1 graph, 1959.

Results are recorded, from the Dept of Public Health, Bureau of Maternal and Child Health, Washington, of the treatment of 81 cases of tinea capitis in children (*Microsporum audouinii*, *M. canis*, and *Trichophyton tonsurans*) by oral administration of griseofulvin at various dosages. Clipping or shaving is recommended, to remove the upper, infected parts of the hairs, while scrupulous cleanliness facilitates removal of infectious scales and debris. In view of the recurrence of lesions after a single negative culture in 3 cases treated at low dosage for 4 weeks or less, it is suggested that patients should not be discharged as cured before 2 cultures at a 1 week interval have proved negative, followed by a 3rd 2 weeks after the end of treatment.

Of 13 patients with *M. audouinii* infection given 28–70 days' treatment at 10–17·4 mg. lb./day 10 were negative to Wood's light by the 28th day, 2 required 42 days of treatment, and 1, whose treatment was stopped on the 28th day, was still positive to Wood's light 2 weeks later. In this same group 10 patients began to show consistently negative cultures by the 70th day of observation, while 2 still yielded positive cultures after 77 days of continuous therapy. While *M. canis* and *T. tonsurans* infections responded to the treatment, the number of cases was too small to permit conclusions as to optimal dosage.

The only untoward reaction observed during griseofulvin treatment was periorbital oedema, in 2 of 120 patients.

1284. Mullins (J. F.), Jampolsky (N. A.), & Pinkerton (Mary E.). **Oral treatment of superficial mycoses with griseofulvin.**—*Tex. Rep. Biol. Med.*, **17**, 3, pp. 411–422, 6 fig., 1959.

Most of the 24 patients treated at the Univ. Texas Medical Branch, Galveston, were cured or improved [cf. above]. The opt. min. dosage has yet to be determined.

1285. Ito (K.), Rieth (H.), Hansen (P.), & El-Fiki (A. Y.). **Läuse als Überträger von Dermatomykosen bei Mäusen und ihre Vernichtung durch Gammescan.** [Lice as vectors of murine dermatomycoses, and their control by gammescan.]—*Bull. pharm. Res. Inst., Osaka*, 20, pp. 23–24, 3 fig., 1959.

A mouse spontaneously infected with *Trichophyton mentagrophytes* was found to be heavily infested by lice (*Polyplax serrata*). When individual lice were plated out on Kimmig agar containing penicillin, streptomycin, and actidione, the fungus was isolated in a number of instances. These lice could thus act as vectors.

1286. Doupagne (P.). **Isolement de Microsporum gypseum du sol et du guano au Congo belge.** [Isolation of *M. gypseum* from the soil and from guano in the Belgian Congo.] *Ann. Soc. belge Méd. trop.*, **39**, 3, pp. 281–286, 1959. [Flem. Engl., Germ., Span. summ. 20 ref.]

Of 13 strains isolated from 76 samples of soil, 2 were of the red var. [**3**, No. 228]. The source of 5 strains was the soil of a henhouse, while the remainder originated in guano collected from the grottoes of Mt. Hoyo, Ituri. This is stated to be the 1st record both of *M. gypseum* as an occupant of Congolese soil and of its isolation from guano.

1287. Evolceanu (R.) & Alteraș (I.). **Considérations à propos des caractères mycologiques et pathogèniques du Keratinomyces ajelloi—Vanbreuseghem 1952, saprophyte du sol.** [Considerations concerning the mycological and pathogenic characters of *K. ajelloi*—Vanbreuseghem 1952, a soil saprophyte.]—*Mycopathologia*, **11**, 3, pp. 196–204, 6 fig., 1959. [Engl. summ.]

From the Institut de Thérapeutique, Academie de la République Populaire Roumaine, is reported the isolation, from soil in the Bucharest area, of several strains of *K. ajelloi*, one exhibiting spirals and chlamydospores. Lesions, of a tinea circinata type, disappearing in a few days, resulted from a small proportion of numerous abrasion inoculations on man, mice, and guinea-pigs.

The authors would place the fungus in the genus *Epidermophyton*, as '*E. terrigenum*'.

1288. Rieth (H.) & El-Fiki (A. Y.). **Dermatomykose beim Pferd durch Keratinomyces ajelloi Vanbreuseghem 1952.** [Dermatomycosis of the Horse caused by *K. ajelloi* Vanbreuseghem, 1952.] —*Bull. pharm. Res. Inst., Osaka.* 21, pp. 1–6, 4 fig., 1959.

A case report from the Universitäts-Hautklinik, Hamburg-Eppendorf and the Hygienisches Institut der Tierärztlichen Hochschule, Hanover. The fungus, which was cultured, was demonstrable within the hairs and in the squamae, producing long spore chains.

1289. Kuroda (K.). **Experimental study on fungus granuloma. I. Fungus granulomas experimentally produced at the ears of Rabbits by dorsal cutaneous reinfection with Trichophyton mentagrophytes var. asteroides. II. Antibody production in experimental fungus granuloma upon dermal reinoculation with Trichophyton mentagrophytes var. asteroides, using crude polysaccharide (from Tr. mechanically disintegrated) as antigen. III. Trichophytin skin reaction in experimental fungus granuloma, using crude polysaccharide (from Tr. mentagr., var. ast. mechanically disintegrated) as trichophytin. IV. Blood-borne fungi in Rabbits with dermal fungus granuloma on the ears due to a second dermal inoculation with Trichophyton mentagrophytes var. asteroides. V. Fungus granuloma on the ears of immune Rabbits with Trichophyton mentagrophytes var. asteroides, following intracardiac injection with its suspension. VI. Fungus**

granuloma, fungus 'id' reaction experimentally produced.—*Bull. pharm. Res. Inst., Osaka* 16 (1958), pp. 1–18, 22 fig.; 17 (1958), pp. 6–17, 6 graphs; 18 (1958), pp. 5–18, 5 fig., 3 graphs; 19 (1959), pp. 5–12, 4 graphs; 20 (1959), pp. 8–20, 9 fig., 4 graphs; 21 (1959), pp. 7–18.

The 1st paper gives a detailed account of the granulomas which developed on the ears of adult albino rabbits when they were reinoculated on the back at the site of the healed lesion which had resulted from a previous inoculation with *T. mentagrophytes* 1 month earlier. These granulomas, in their active stage, had a tuberculoid structure, centred about a necrotizing zone containing fungal elements. Their development is described in detail, the author considering them to represent an immune reaction to fungal elements and their toxins. A phlebitis frequently preceded the development of the granulomas, and fungal elements were present in the veins.

The 2nd paper reports the results of serological examinations (complement-fixation and precipitin reactions) of rabbits, some of which had and some of which had not developed granulomas of the ears following reinoculation on the back. There was a 'flare-up' of the serological reactions on reinoculation, the strongest precipitin and C.F. reactions approximately corresponding with the development of the granulomas, and exceeding in strength those which followed the 1st inoculation. In cases where there was no serological 'flare-up' on reinoculation there was no development of granulomas.

The 3rd paper describes trichophytin skin testing of the ears of rabbits reinoculated on the back, the trichophytin in question being the crude antigen used in the previous serological tests. A reaction was elicited in every case. It is noteworthy that there was a 'flare-up' in response to this test, corresponding with the occurrence of the 'id' reaction which preceded the development of the granulomas, and approximately corresponding with the period of serological 'flare-up' described above.

The 4th paper records experiments in which blood samples were taken at intervals (2 hr., 4 hr.; 5, 7, 10, and 20 days) after both the 1st and 2nd inoculations, and cultured to determine the persistence of the fungus in the bloodstream. Following 1st inoculations the fungus was present in the blood up to 4 hr., and the same obtained for the 2nd inoculation in the case of rabbits which did not develop granulomas on the ears. However, in the case of some of the rabbits which did develop these granulomas following the 2nd inoculation, the fungus was present in the 7 and 10 day samples as well. It should be noted that the period from the 7th–10th day corresponded to the onset of the 'id' reaction preceding the development of the granulomas. These results, taken with those of the foregoing experiments, indicate the allergic nature of the granulomas.

In the experiment described in the 5th paper the rabbits were given a 1st dorsal inoculation in the usual way. Then, after 1 month, they were inoculated by the intracardiac route with a suspension of the fungus. Granulomas developed on the ear as in the previous experiments, preceded or accompanied in the same way by fungus thrombophlebitis. Regarding the granulomas (in all the experiments), a number of observations are made, *viz.* 1) they never occurred in non-immunized animals; 2) they would not develop before a certain time had elapsed following the initial inoculation; 3) fungal elements were demonstrable *in loco* only during the early stages of their development; 4) they were situated along the auricular vessels; 5) their formation followed severe vascular exudative inflammation, thrombophlebitis, and cutaneous circulatory disturbance; and 6) trichophytaemia was demonstrable prior to their appearance. It is concluded that the granulomas are to be classified as 'id' reactions.

The 6th paper is a recapitulation of the foregoing, with a discussion from the viewpoint of comparative exanthematology.

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1290. Kuroda (K.). **Serological studies of experimental trichophytosis. Complement fixation and precipitating reactions in patients with dermatomycoses, using crude polysaccharide from Tr. ast. mechanically disintegrated as antigen.** —*Bull. pharm. Res. Inst., Osaka,* 15, pp. 5–8, 1958.

Twelve volunteers with dermatophyte infections (*Trichophyton interdigitale*, 4; *T. rubrum*, 7; and *T. inguinale* [*Epidermophyton floccosum*], 1) were examined by the complement-fixation and precipitin reactions, the antigen being a crude preparation from *T. asteroides* [*T. mentagrophytes*] obtained by a method developed at the Institute (K. Ito *et al.*, *Ibid.* 13, 1957). Skin testing was also performed with the same antigen. From the tabulated results it is apparent that the majority were positive to serological tests, and there was in most cases a correlation between skin allergy and both serological tests. Where trichophytids were present there were always positive reactions to all 3 tests.

1291. Ito (K.). **Lung feature of Trichophyton granuloma, experimentally produced.** —*Bull. pharm. Res. Inst., Osaka,* 20, pp. 1–7, 4 fig., 1959.

Albino rabbits were cutaneously inoculated on the back with *Trichophyton mentagrophytes* (var. *asteroides*), and 1 week after the spontaneous healing of the lesion they were reinoculated *via* the auricular vein with a fungus suspension. Among the generalized necrotizing reactions which occurred were peculiar lesions of the ears. This preliminary paper is however primarily concerned with the granulomas which developed in the lung parenchyma. These, which are described in detail, show tuberculoid epithelioid cell response with or without a central necrotizing area, mingled with giant cells of the foreign body and Langhans type: their histology resembles that of the granulomas occurring on the ears of such rabbits following cutaneous reinfection [see preceding abstracts].

1292. Georg (Lucille K.). **Animal ringworm in public health.**—pp. 57, 10 pl. U.S. Dept. Health, Education, & Welfare, 1959. [149 ref.]

In this booklet the author summarizes her wide experience of ringworm of animals in a concise and practical manner.

Part 1 deals with diagnosis (pp. 4–7). Part 2 (pp. 9–42) is a review of ringworm in animals, its transmission to man and public health aspects. Formulae of isolation media and 4 charts on the clinical diagnosis of ringworm in animals and the cultural characteristics of ringworm fungi isolated from animals constitute an appendix.

1293. Alfonso-Armenteros (J.) & Romero-Jordán (O.). **Una nueva forma clínica de la cromoblastomicosis. Forma seudo-queloidea.** [A new clinical form of chromoblastomycosis. Form pseudo-keloid.]—*Bol. Soc. cubana Derm. Sif.*, **15**, 3–4, pp. 152–158, 5 fig., 1958.

Report of a Cuban case due to *Phialophora pedrosoi* with multiple keloid nodules.

1294. Novales (Josefa). **Cromomicosis. Estudio de un caso.** [Chromoblastomycosis. Study of a case.]—*Dermatologia Méx.*, **2**, 1–4, pp. 30–37, 1958. [Engl. summ.]

In a case of *Phialophora pedrosoi* infection treated for several months with 100 mg. of diamino-diphenyl-sulfone ('Avlosulfon') daily, clinical improvement was recorded. Three other Mexican cases are briefly described.

1295. Saubermann (G.) & Scholer (H. J.). **Aspergillose der Hornhaut. I. Kasuistischer und experimenteller Beitrag zur Diagnose und Therapie.** [Aspergillosis of the cornea. I. A clinical and experimental contribution to diagnosis and therapy.]; Scholer (H. J.) & Saubermann (G.). Ibid. **II. Diskussion von 90 Fällen der Literatur.** [*Ibid.* II. A discussion of 90 cases from the literature.]—

Bibl. ophthal., Basel, **54**, pp. 1–22, 9 fig.; pp. 23–58, 1959. [4 pp. ref.] Swiss Fr. 8.

The 1st paper describes in detail a case in a man who developed an ulcus serpens following a slight injury to the eye during threshing. *Aspergillus fumigatus* was isolated from the cornea, and fungal elements were demonstrated by direct microscopy. The condition cleared during, and probably as a result of, nystatin therapy, the antibiotic being subsequently found to be active against both corneal infection in rabbits and intravenous infection in mice.

The 2nd paper is a useful account of the etiology, clinical forms, course, and prognosis of *Aspergillus* infection of the cornea, based on 90 cases from the world literature. It is concluded that although no cases have been recorded in the literature from the German-speaking countries since 1914, the condition is probably not so rare in central Europe as has been thought. In diagnosis isolation of the fungus should be confirmed by demonstration of fungal elements in the cornea. Ocular treatments with corticosteroids, and possibly with antibacterial antibiotics, create a certain susceptibility.

1296. Veirs (E. E.) & Davis (C. T.). **Fungus infections of the eye and the orbit.**—*Arch. Ophthal., N.Y.*, **58**, 2, pp. 172–176, 4 fig., 1958.

Four cases are reported from Temple, Texas, 2 involving the orbit in females and 2 the cornea in males. One of the former was associated with (?) *Aspergillus* sp. [see above] and the other with *Actinomyces* [*Streptomyces*] sp.; in neither of the latter could the organism be identified but a *Mucor* sp. was suspected to be the agent in 1 of them. The etiology of the orbital infections was obscure. Injury from a thorn was responsible for 1 of the corneal infections and the intrusion of a small foreign body for the other, attributed to *M.* sp. In this case the extensive use of corticosteroid drugs is believed to have contributed to the subsequent development of keratitis necessitating enucleation.

1297. Barsky (D.). **Keratomycosis. A report of six cases.**—*Arch. Ophthal., N.Y.*, **61**, 4, pp. 547–552, 8 fig., 1959.

Fungi were demonstrated microscopically at the Kresge Eye Inst., Detroit, in all these cases of corneal infection involving enucleation, but only 1 was identified (as *Fusarium oxysporum*). In another patient with an ulcer caused by sawdust and bark the organisms presented the appearance of *Aspergillus* [see above].

1298. Finegold (S. M.), Will (D.), & Murray (J. F.). **Aspergillosis. A review and report of twelve cases.**—*Amer. J. Med.*, **27**, 3, pp. 463–482, 4 fig., 3 graphs, 1959. [62 ref.]

The data in all but 1 of these cases reported jointly with a full discussion from the Wadsworth Hosp. and Univ. Calif. Medical Center, Los Angeles, were obtained at autopsy. They form the basis for a new system of classification, involving division into a primary and secondary type of aspergillosis, the former arising without the occurrence of an antecedent disorder and the latter always associated with an underlying local process, debilitating illness, or antibiotic or steroid therapy. The 2 types are further subdivided into localized, invasive, or disseminated. Only 1 case in the present series was primary. *Aspergillus fumigatus* is stated to be the most frequent agent and was identified in some of the cases.

1299. Naji (A. F.). **Bronchopulmonary aspergillosis. Report of two new cases: review of literature, and suggestion for classification.**—*Arch. Path.*, **68**, 3, pp. 282–291, 8 fig., 1959. [32 ref.]

In this report from the Maimonides Hosp., Brooklyn, N.Y., the author distinguishes two types of bronchopulmonary aspergillosis: (1) intracavitary fungus mass or

intracavitary aspergilloma and (2) bronchopneumonic aspergillosis. One new case of each type is described in detail—the 1st in a 64-yr.-old white man (caused by *Aspergillus* sp.), the 2nd in a 68-yr.-old white woman (*A. flavus*). The former is supplemented by a tabulation of 19 similar intracavitary cases from the literature and the latter by an additional 16 cases of bronchopneumonic aspergillosis.

1300. Olk (W.). **Bronchogene generalisierte Aspergillose.** [Bronchogenic generalized aspergillosis.]—*Zbl. allg. Path. path. Anat.*, **97**, 7, pp. 361–371, 5 fig., 1958.

The history of the disease is traced, numerous contributions to the literature are reviewed, and a report is presented from the Pathologisches Institut der Städtischen Krankenanstalten, Bielefeld, Germany, on a case of primary infection in a 60-yr.-old woman, originating in the bronchi and spreading to the kidneys, spleen, and liver, with the formation of small granulomata containing giant cells with *Aspergillus* spores. The diagnosis was only established by post-mortem histological studies. The patient's residence in an old, damp farmhouse is considered to have been a predisposing factor in the pathogenesis of the illness.

1301. Manych (J.), Eichler (K.), & Lamblová (Hana). **Aspergillosis pulmonum.** —*Čas. Lék. čes.*, **98**, 5, pp. 144–147, 5 fig., 1959. [Russ., Engl., Fr. summ. 17 ref.]

From the Katedra epidemiologie LFHKU, Prague, Czechoslovakia, the authors report a case of pulmonary aspergillosis (*Aspergillus fumigatus*) in a 44-yr.-old doctor, diagnosed *in vivo* on the basis of the repeated microscopical and cultural demonstration of the fungus in the sputum and washings, as well as by curettage of an aspergillosis cavity with typical X-ray findings. This is stated to be the 1st record of combined clinical and pathologico-anatomical evidence in the same patient.

1302. Pezzuoli (G.), Pietri (P.), Cafiero (F.), & Della Torre (B.). **L'aspergilloma polmonare.** [Pulmonary aspergilloma.]—*Arch. Chir. Torace*, fasc. 4, pp. 621–660, 27 fig., 1958. [Fr., Engl., Germ., Span. summ. 79 ref.]

An account is presented of 6 cases of pulmonary aspergilloma (*Aspergillus fumigatus*) studied during a period of 2 yr. at the Univ. Milan and cured by pulmonary resection.

1303. Vos (H.). **Schimmelinfection van de long.** [Mould infection of the lung.]—*Ned. Tijdschr. Geneesk.*, **102** (i), 12, pp. 591–593, 1958.

A full pathologico-anatomical report on an unusual case of aspergilloma (*Aspergillus fumigatus*) in a 20-yr.-old male patient at the Hellendoorn Sanatorium, Netherlands, treated by thoracotomy.

1304. Villar (T. G.). **Considerações sôbre dois novos casos de 'aspergiloma pulmonar'.** [Considerations on two new cases of 'pulmonary aspergilloma'.] —*Gaz. méd. portug.*, **12**, 2, pp. 117–133, 21 fig., 1959. [Fr., Engl. summ. 47 ref.]

This is a detailed anatomo-pathological report from the records of the Serviço de Patologia Médica, Lisbon, on a 10-yr.-old boy and a 33-yr.-old woman, in neither of whom was the cause of the illness recognized at the time (1951 and 1953, respectively). In both cases, in retrospect, the X-ray pictures were found to be diagnostic of 'pulmonary aspergilloma' (*Aspergillus* sp.). Among other remarkable features of these cases was the production of clinical symptoms by dead fungal elements acting as foreign bodies. An addendum is concerned with a 38-yr.-old male patient in whom the disease was diagnosed pre-operatively on the basis of the foregoing studies.

1305. Saez (H.). **Aspergillus isolés dans les fèces de quelques animaux du Parc Zoologique de Vincennes.** [*Aspergillus* spp. isolated from the faeces of some animals at the Zoological Park, Vincennes.]—*Bull. Mus. Hist. nat., Paris*, **31**, 3, pp. 277–284, 1959.

In this study made in Sept.–Nov., 1958 [cf. **3**, 1250], fresh faeces were sampled by use of swabs or Pasteur pipettes, and the material diluted in peptone solution and plated on Sabouraud glucose agar (37° and 18–20° C.), with subsequent pricking out of the colonies onto Czapek medium. 354 samples from 12 animals, including several spp. of deer, giraffe, and ostrich, yielded 100 isolates of *Aspergillus*, 28 of *Penicillium*, and 18 of *Scopulariopsis brevicaulis*. The findings for each host are listed in detail.

1306. McLean (W. C.) & Fitz-Hugh (G. S.). **Blastomycosis as encountered in the practice of otolaryngology.**—*Sth. med. J.*, **52**, 6, pp. 667–673, 2 fig., 1959. [15 ref.]

Following a summary of general information 2 cases of laryngeal infection by *Blastomyces dermatitidis* are fully reported from the Univ. Virginia Hosp., Charlottesville, in male patients aged 78 and 56 yr. The former recovered after a course of potassium iodide but the latter succumbed despite $3\frac{1}{2}$ yr. therapy with 2-hydroxystilbamidine (total of 29·93 g.).

1307. Stein (A. A.). **Systemic moniliasis : a clinicopathological report of five cases.**—*Antibiot. Med.*, **6**, 5, pp. 297–308, 6 fig., 1959. [25 ref.]

Full clinical reports, including postmortem findings, are given from the Albany med. Coll., N.Y., of 5 cases of systemic moniliasis. Each patient had received treatment with broad spectrum antibiotics necessitated by intercurrent infection occurring during a major illness. It is concluded that surface growth of *Candida* had been stimulated and the development of systemic disease was facilitated by a break in the skin or mucous membrane, but only occurred as a terminal infection in very debilitated patients. In 3 cases *C. albicans* was identified and *C. tropicalis* in 1.

1308. Braude (A. I.) & Rock (J. A.). **The syndrome of acute disseminated moniliasis in adults.**—*Arch. intern. Med.*, **104**, 1, pp. 91–100, 7 fig., 1959. [29 ref.]

This is a full case report, from the Univ. Pittsburgh Sch. Med., of a fatal *Candida albicans* infection of a 55-yr.-old man involving the kidneys, thyroid, brain, and intestines.

The authors conclude that acute disseminated moniliasis in adults is a definite clinical entity characterized by (1) a background of continuous antibiotic treatment during a protracted debilitating illness and (2) an abrupt decline with the development of fever, shock, and gastrointestinal bleeding. The lowered resistance to *C. albicans* is believed to be related to (1) alteration in the bacterial flora of the bowel by antibiotics and (2) injury to the gastrointestinal mucosa.

1309. Corbelli (G.), Allegri (L.), & Mazzoni (A.). **Casi clinici di candidosi.** [Clinical cases of candidosis.]—*Minerva med., Torino*, **48**, 91, pp. 3812–3823, 18 fig., 1957.

After an historical introduction and an account of their own techniques (culturing the fungus, microscopical and cultural examination, immunological tests, and inoculations of laboratory animals), the authors give details of their study at the Univ. Bologna of cases of oro-pharyngeal, tracheobronchial, bronchopulmonary, intestinal, cutaneous-mucous, and disseminated infection by *Candida albicans*.

1310. Kaufman (S. A.) & Levene (G.). **Esophageal moniliasis : report of a case with roentgenographic findings.**—*Ann. intern. Med.*, **49**, 3, pp. 684–687, 1958. [Interlingua summ.]

The roentgenological appearance of the oesophagus of a patient with leukaemia and oesophageal moniliasis (*Candida albicans*), X-rayed on account of dysphagia, was characterized by marked irregularity, narrowing, and rigidity. This was due to a pseudo-membrane produced by an extremely thick growth of *C. albicans*, which lined almost the entire oesophageal mucosa. Radiographic findings are distinctive enough to suggest diagnosis of this condition even in cases where it may be unsuspected.

1311. Benirschke (K.) & Raphael (S. I.). **Candida albicans infection of the amniotic sac.**—*Amer. J. Obstet. Gynec.*, **75**, 1, pp. 200–202, 2 fig., 1958.

A joint report from the Harvard med. Sch. and the Boston and Providence (Rhode Island) Lying-In Hospitals on what is believed to be the 1st record of *C. albicans* infection of the umbilical cord.

1312. Della Torre (B.), Arisi (C.), & Savino (L.). **Ricerche sulla presenza e sul significato dei miceti delle appendicopatie.** [Researches on the presence and the significance of fungi in appendicitis.]—*Boll. Soc. med.-chir. Pavia*, fasc. 3–4, pp. 405–413, 1 fig., 1959. [14 ref.]

Of 60 appendices (removed because of acute or chronic inflammation) examined the majority showed the presence of bacteria only, but from 9 of them 7 yeasts (*Candida parapsilosis*, *C. albicans*, *Torulopsis famata*, *C. intermedia*, *C. albicans* var. *metalondinensis*, *C. albicans* var. *tropicalis*, and *C. pseudotropicalis*) and 2 moulds (*Rhizopus* sp. and *Scopulariopsis brevicaulis*) were isolated. Histological examination was in all cases negative for the yeasts, positive for the bacteria. It is concluded that fungi are of small importance in the causation of appendicitis.

1313. Della Torre (B.), Arisi (C.), & Savino (L.). **Ricerche sulla presenza e sul significato dei miceti nella bile di colecistopatici.** [Researches on the presence and the significance of fungi in the bile in cholecystitis.]—*Boll. Soc. med.-chir. Pavia*, fasc. 1–2, pp. 267–275, 1959. [15 ref.]

Examination of the bile in 100 cases of cholecystitis, together with a histological study of the bile ducts, showed that when specimens were taken in conditions of absolute sterility no fungus was isolated, but when they were obtained by a probing of the duodenum a number of yeasts were isolated, 55–66% of which belonged to *Candida*. It is concluded that there is some doubt whether fungi have any significance in cholecystitis.

1314. Della Torre (B.) & Fior (R.). **Flora micetica nelle tonsillopatie croniche.** [The fungal flora in chronic tonsillitis.]—Reprinted from *G. Mal. infett.* (*1958*), 19 pp. 10 fig., 1 graph, 1958. [Fr., Engl., Germ. summ. 24 ref.]

Smears from the tonsils of 60 patients suffering from chronic tonsillitis and from 60 healthy controls showed the presence of fungi in 20 of the former. Of these isolates (which are detailed), 16 belonged to *Candida* (12 *C. albicans*). In the control group, fungi were present in only 6 cases, and most had no pathogenic significance.

Biological tests on rabbits and microscopic examination showed that most of the *Candida* isolates were highly pathogenic.

1315. Della Torre (B.), Lampertico (P.), Rilke (F.), Scomazzoni (G.), Tommasini Degna (A.), & Tropeano (L.). **Otto casi di esofagite micosica in neonati sottoposti a trattamento con antibiotici.** [Eight cases of mycotic

oesophagitis in new-born infants submitted to treatment with antibiotics.] —Reprinted from *Boll. Soc. ital. Pat.*, **6**, 2 pp., [? 1959.]

A note on 8 cases of prematurely born infants with symptoms of gastro-enteritis treated with various antibiotics. After death at 3–23 days the oesophagus was found to be infected by *Candida albicans*.

1316. Loken (K. I.), Thompson (E. S.), Hoyt (H. H.), & Ball (R. A.). **Infection of the bovine udder with Candida tropicalis.**—*J. Amer. vet. med. Ass.*, **134**, 9, pp. 401–403, 2 fig., 1959.

In Dec. 1957 in Minnesota 15 cows showing a high incidence of *Streptococcus agalactiae* infection were treated by intramammary injection of procaine penicillin and dehydrostreptomycin. Within 5 days all developed more or less severe acute mastitis, and extensive swelling of a spongy consistency was present in the udders of several animals. *Candida tropicalis* was isolated from 45 (75%) of the quarter samples examined, each cow having at least 1 quarter affected. The infection was self-limiting in most of the animals, though some harboured the fungus for 4 months or more. In 1 cow, slaughtered because of failure to return to normal milk production, there was an abscess 10 cm. diam. in 1 quarter, yielding a viscous exudate from which the fungus was obtained in pure culture. It was also present in milk from the other quarters. Except in the abscessed area the organisms did not appear to penetrate the interlobular or periductal tissue. Cellular infiltration of the interlobular tissue was minimal, and lymphocytic in nature.

1317. Hasenclever (H. F.). **Comparative pathogenicity of Candida albicans for Mice and Rabbits.**—*J. Bact.*, **78**, 1, pp. 105–109, 1959.

At the Lab. Infectious Diseases, Nat. Inst. of Health, Bethesda, Md, the pathogenicity of *C. albicans* for Swiss white mice and albino rabbits was compared on a weight for weight basis, inoculations being performed intravenously (**3**, No. 1168) with one or other of 10 strains. It was concluded that the female mice were highly susceptible, and that to some strains they were as susceptible or more so than the male rabbits. *C. tropicalis* showed some lethality for mice, but not rabbits, while *C. parapsilosis* and *C. stellatoidea* were not lethal for either.

1318. Flamm (H.), Kovac (W.), & Kunz (C.). **Experimentelle Pilzinfektion der weißen Maus während der Gravidität.** [Experimental fungus infection of the white Mouse during pregnancy.]—*Zbl. Bakt.*, Abt. 1 (*Orig.*), **172**, pp. 449–457, 6 fig., 1958. [Engl., Fr., Span., Russ. summ.]

At the Hygiene-Institut, Univ. Vienna, the intravenous inoculation of pregnant white mice with *C. albicans* resulted in the development of the fungus not only in the internal organs but also, in many cases, in the placenta, whence access was gained to the amniotic liquor and ultimately to the foetus, causing the death of the latter before the formation of lesions.

1319. Baylet (R. J.). **Champignons du genre Candida à Dakar.** [Fungi of the genus *Candida* at Dakar.]—*Bull. Soc. Path. exot.*, **52**, 1, pp. 60–64, 1959.

C. albicans was responsible for 71% of the cases examined (all in adult or juvenile Africans), *C. tropicalis* for 18%, *C. krusei* for 9%, and *C. guilliermondi* and an azymatic *C.* sp. for 1% each.

1320. Vince (S.). **The spread of Candida in Infants and Children. Generalized endogenous mycosis in childhood.**—*Med. J. Aust.*, **46** (ii), 5, pp. 143–149, 1959. [35 ref.]

The 1st of these papers is a tabulated survey and discussion of comparative investigations on the incidence of *Candida* (primarily *C. albicans*) in 500 healthy and sick

children in Budapest [cf. **2**. No. 2389. 2390; **3**. 466] and 436 in Sydney. The incidence of throat infection in the latter group was 49·2% in Hungary as against 24·6 in New S. Wales. Blood and urine specimens were analysed in a series of 60 infants receiving more than 5 days' broad-spectrum antibiotic therapy. All 3 yielding positive blood cultures were suffering from generalized moniliasis. In most cases no clinical significance could be attached to the 36 positive urine cultures obtained from 19 patients.

In the 2nd paper a tabulated history is presented of 9 children (8 in Budapest, 1 in Sydney) infected, *inter alia* by *C. albicans*, *C. tropicalis*, *C. pseudotropicalis*, and jointly by *C. albicans* and *Torulopsis glabrata*. The problems of the diagnosis and pathogenesis of endogenous mycosis are discussed. In the author's opinion, although the protracted administration of antibiotics is important in relation to fungal development and spread within the body, the decisive factor is probably the lowering of resistance by chronic or recurrent infections. In such cases the use of drugs, e.g. mycostatin or paraben, should be supplemented by γ-globulin therapy.

1321. Karasaki (Tadashi). **Blood concentration of trichomycin. VI. Therapeutic blood concentration for experimental candidiasis in the rabbit.**—*Antibiot. & Chemother.*, **9**, 6, pp. 337–348, 3 fig., 1959. [9 ref.]

At the Fujisawa Pharmaceutical Co., Osaka, Japan, *in vivo* activity of trichomycin is assessed in experimental *Candida albicans* infections in rabbits by determining the blood level required to inhibit renal change and reduce the number of organisms found in that organ. Blood levels of 5–10 μg. trichomycin ml. for 12 hr. gave complete protection; 2–3 μg. ml. required 30 hr. to be effective. Some animals were found which appeared to inactivate the trichomycin readily and in these the maintenance of an effective blood level was impossible.

1322. Lacaz (C. da S.) & Ulson (Cecilia). **Acção 'in vitro' da trichomicina (cabamicina) sôbre leveduras.** [The 'in vitro' action of trichomycin on yeasts.]—*Rev. lat.-amer. Microbiol.*, **1**, 3, pp. 215–224, 1958. [Engl. summ.]

Discs with 35 and 350 u of the antibiotic [**3**. No. 274, 378] were placed on Sabouraud glucose agar and tested against 102 strains of pathogenic and non-pathogenic yeasts. The main species of the genus *Candida* were included. Only 1 strain of *C. suaveolens* and 1 of *C. guilliermondii* showed resistance. Two other strains of *C. guilliermondii* were sensitive.

1323. Fraser (W. M.) & Knox (J. M.). **Amphotericin as a tropical antifungal antibiotic.**—*Arch. Derm., Chicago*, **80**, 4, pp. 436–438, 1959.

The authors report from the Dept Dermatology, Baylor Univ. Coll. Med., Houston, Texas, the use of topical applications of amphotericin A and B, singly and in combination, in 154 cases of superficial infection by various fungi. Their experience indicated that while both were effective against cutaneous moniliasis [*Candida albicans* (cf. **3**. No. 1016)], they were relatively ineffective against dermatophytes (*Trichophyton* and *Microsporum* spp.).

1324. Lones (G. W.) & Peacock (C. L.). **Alterations in Candida albicans during growth in the presence of amphotericin B.**—*Antibiot. & Chemother.*, **9**, 9, pp. 535–540, 3 fig., 1959.

The sensitivity of 12 strains of *C. albicans* to amphotericin B was tested through 52 serial transfers in broth culture in this study at the Nat. Inst. Allergy and Infectious Diseases, Nat. Inst. Health, Bethesda, Md. All strains showed some increased resistance but in 9 this was of a low order and occurred early in the transfers. The other 3 strains showed a tenfold increase in the antibiotic concentration required for 50% inhibition and this only after 30 transfers. Increasing

resistance was accompanied by a decreased ability to form mycelium and chlamydospores and a decreased growth rate; 2 of the more resistant strains showed a decreased virulence for mice.

1325. Kubista (R. A.) & Derse (P. H.). **Comparison of triacetin and nystatin with respect to their stability and effect on Candida albicans.**—*Antibiot. & Chemother.*, **9**, 9, pp. 546–549, 1959.

In vitro testing on agar media at the Wisconsin Alumni Res. Foundation, Madison, of triacetin and nystatin against *C. albicans* showed that the activity of the former was enhanced in the presence of serum while that of nystatin was reduced. Serial transfer showed the development of resistance to nystatin but not to triacetin.

1326. Thompson (R. A. M.) & O'Grady (F.). **Rapid screening of antifungal agents for in vivo activity.**—*J. Path. Bact.*, **77**, 1, pp. 302–306, 3 graphs, 1959.

A method is described from the Middlesex Hosp., London, for evaluating drugs against *Candida albicans* by the subcutaneous injection of the right flanks of mice —the course of the resulting lesions being followed by the max. medio-lateral diam. of the thighs as measured daily. From the results detailed mycostatin proved superior to other drugs.

1327. Lampen (J. O.) & Arnow (P.). **Significance of nystatin uptake for its antifungal action.**—*Proc. Soc. exp. Biol., N.Y.*, **101**, 4, pp. 792–797, 1 graph, 1959.

The time sequence for inhibition of yeast respiration and glycolysis by mycostatin is described and its significance discussed. At the State Univ., New Brunswick, N.J., a series of mycostatin-resistant : sensitive pairs of *Candida* strains was examined, using *C. albicans*, *C. parakrusei*, *C. tropicalis*, and *C. stellatoidea*. In various cases resistance of growth to mycostatin was accompanied by comparable resistance of metabolic activity to the agent. Resistant strains absorbed less of the drug than did sensitive ones under identical conditions, but there was no quantitative correlation between sensitivity and absorption. The addition of serum albumin, zymosan, uranyl ions, $Na_3A_5O_4.12H_2O$, or dinitrophenol protected the metabolism of *Saccharomyces cerevisiae* in varying degrees against the action of mycostatin. Once established, inhibition was irreversible.

1328. Negroni (P.) & Briz de Negroni (Celia). **Acción 'in vitro' del propionato de sodio y del ácido undecilénico sobre especies del género Candida.** [The 'in vitro' effect of sodium propionate and of undecylenic acid on *Candida*.]—*Bol. Soc. cubana Derm. Sif.*, **15**, 3–4, pp. 112–114, 1958.

Undecylenic acid at 0·008% completely inhibited *C. albicans*, *C. brumptii*, *C. parapsilosis*, *C. pulcherrima*, *C. stellatoidea*, *C. solani*, and *C. triadis* and 7 unidentified strains isolated from cases of paronychia. Isolates named *C. aldoi*, *C. deformans*, *C. guilliermondii*, *C. parakrusei*, and *C. krusei* as well as an unidentified strain from a case of paronychia were partially inhibited.

1329. Gopalkrishnan (K. S.), Chaturbhuj (K.), Boyce (S. F.), & Vaidya (S. S.). **Preliminary note on S-39, an antifungal antibiotic.**—*Hindustan Antibiotics Bull.*, **2**, 1, p. 7, 1959.

A *Streptomyces* strain near to *S. albus*, isolated from the soil near Darjeeling, produces an antibiotic, designated S-39, active against a number of filamentous fungi and *Candida albicans*. In Sabouraud agar the antibiotic was active against *C. albicans* at $1:10^5$. The preparation and physical characteristics of the antibiotic are described.

1330. Sanchez-Marroquín (A.). **Taxonomic considerations on some Candida yeasts.**—*Rev. lat.-amer. Microbiol.*, **1**, 3, pp. 233–242, 1958.

The biochemical properties and the morphology of 15 species of *Candida* were studied. The author considers *C. guilliermondii* to be synonymous with *C. melibiosi*, and *C. albicans* with *C. claussenii*. *C. lipolytica*, *C. zeylanoides*, *C. mycoderma*, *C. tropicalis*, *C. robusta*, *C. curvata*, *C. solani*, *C. utilis*, and *C. humicola* are considered to be well characterized.

1331. Widra (A.). **Studies on the nucleus of Candida spp.**—*Mycopathologia*, **11**, 3, pp. 177–184, 3 pl., 1959.

It is reported from the Dept Bact., Univ. N. Carol. Sch. Med., Chapel Hill, that in nuclear division in *C. albicans* during budding and blastospore formation classic mitosis as in the higher ascomycetes is not seen. The crescentic chromatinic material in the nucleus increases so as to fill the nuclear vesicle, and the nucleus then divides into 2 crescentic masses, one of which migrates to the daughter cell. No external centriole or spindle apparatus was observed, and no chromosomes could be resolved. Division in the mycelial phase was as in the yeast phase. Similar figures were found in *C. tropicalis* and *C. guilliermondii*.

1332. Kutscher (A. H.), Seguin (Lucile), Zegarelli (E. V.), Rankow (R. M.), Mercadante (J.), & Piro (J. D.). **Growth characteristics of Candida albicans on Pagano-Levin culture medium.**—*J. invest. Derm.*, **33**, 2, pp. 41–47, 1959.

On this medium [**3**, No. 1022] after 2–3 days' growth at room temp. cream-coloured or faintly pink colonies are tentatively identified as *C. albicans*, other saprophytic and pathogenic yeasts and other *Candida* spp. ranging from dark pink to dark red. *C. krusei* is the major exception to this overall picture, in that it also gives white colonies, which, however, are flat, dry, and non-glistening, and so readily distinguished from *C. albicans*. In the present study, reported from the Depts of Dentistry and Bacteriology, Francis Delafield, Columbia Univ., N.Y., 100 strains of *C. albicans* showed uniform and characteristic growth on the medium, which is therefore accepted as useful for rapid clinical diagnosis.

1333. Rieth (H.), Hansen (P.), El-Fiki (A. Y.), & Ito (K.). **Hefe-Differenzierung auf Reisagar.** [Differentiation of yeasts on rice agar.]—*Bull. pharm. Res. Inst., Osaka*, 19, pp. 13–18, 9 fig., 1959.

Culture on rice agar (rice, agar aa. 20 g./l.) is recommended for the differentiation of yeast spp. While particularly suitable for identification of *Candida albicans* the method is also useful for routine checking of supposedly pure yeast cultures.

1334. Converse (J. L.) & Besemer (A. R.). **Nutrition of the parasitic phase of Coccidioides immitis in a chemically defined liquid medium.**—*J. Bact.*, **78**, 2, pp. 231–239, 10 fig., 1 graph, 1959.

In further studies [**3**, No. 105] on the nutritional and environmental factors affecting spherule formation by *C. immitis in vitro* the medium used comprised ammonium acetate at 0·016M; glucose, 0·022M; KH_2PO_4, 0·003M; K_2HPO_4, 0·003M; $MgSO_4.7H_2O$, 0·0016M; and $ZnSO_4.7H_2O$, $1{\cdot}24\times10^{-5}$M, with a final pH of 6·3 after autoclaving. Spherule formation occurred most readily in 20% O, and was found to be stimulated by addition of Na and Ca ions, $NaHCO_3$, the sulphydryl compound glutathione, or oleic or linoleic acids, as well as by such metabolic inhibitors as sodium fluoride, copper sulphate, sulphaguanidine, and lithium chloride. Inhibition of spherulation by *p*-chloromercuribenzoate and iodoacetate was reversed by addition of glutathione. Tamol N (*loc. cit.*) was more effective than any other surface active compound tested in stimulating growth, spherulation,

rupture of spherules, and dispersal of the endospores, while a combination of this agent with sodium fluoride yielded practically pure suspensions of intact spherules.

1335. Huntington Jr. (R. W.). **Morphology and racial distribution of coccidioidomycosis. Report of a ten-year autopsy series in an endemic area.**—*J. Amer. med. Ass.*, **169**, 2, pp. 115–118, 1959. [*T.D.B.*, **56**, p. 656.]

The author reports from the Univ. Southern Calif. Sch. Med., Los Angeles, that in a series of 4,989 autopsies there were 99 deaths attributable to tuberculosis and 66 to coccidioidomycosis (*Coccidioides immitis*). While the incidence of fatal tuberculosis was only slightly higher in Negroes than Caucasians fatal coccidioidomycosis in Negroes was 10 times that in Caucasians. Conversely for Mexicans fatal coccidioidomycosis was only slightly higher than in Caucasians while that of fatal tuberculosis was very much higher. Fulminating disseminated coccidioidomycosis was commoner among Negroes than among the other races.

1336. Castellot (J. J.), Pitts (F. W.), & Mowrey (F. H.). **A case of coccidioidal meningitis arrested by prolonged therapy with intravenous amphotericin B.**—*Antibiot. Med.*, **6**, 8, pp. 480–485, 1 fig., 1959. [16 ref.]

Administration of 5·7 g. of amphotericin B by i.v. infusion over a period of 6 months to a patient at the Letterman Army Hosp., San Francisco, resulted in relief of all symptoms of coccidioidal (*Coccidioides immitis*) meningitis. Some evidence of renal insufficiency was apparent, but disappeared on cessation of therapy and the patient was still symptomless 7·5 months later.

1337. Nordstoga (K.), Lindquist (K.), & Strande (A.). **Coccidioidomycosis. Report of a case in a Dog.**—*Nord. Vet.-Med.*, **11**, 7–8, pp. 461–468, 6 fig., 1959. [Germ., Norweg. summ.]

A description of a case of *Coccidioides immitis* infection in a 5-yr.-old male Boxer dog, quarantined at Oslo on arrival from Nicaragua.

1338. Rehkemper (J. A.). **Coccidioidomycosis in the Horse. A pathologic study.**—*Cornell Vet.*, **49**, 2, pp. 198–211, 7 fig., 1959.

The author compares the pathological aspects of coccidioidomycosis (*Coccidioides immitis*) in the 1st equine case recently reported by Zontine [**3**, No. 560] with those of the disease in dogs and cattle. The clinical features of the disease in the mare included a prolonged course (4 months) with intermittent colic, severe progressive emaciation, fluctuation of temp., and oedema of the lower extremities. Pathologically the case was of the classical chronic granulomatous type as observed in man and other animals. The lungs were severely involved, as was the greatly enlarged spleen, which was adherent to the abdominal wall: the liver and kidneys were less severely affected. Histologically the lesions were characterized by a diffuse granulomatous inflammation, with an admixture of neutrophils and leucocytes, and by circumscribed granulomas and microabscesses. Giant cells were frequently observed. All stages in the development of the fungus were plentiful, both free and within macrophages.

1339. Gadebusch (H. H.). **Passive immunization against Cryptococcus neoformans.**—*Proc. Soc. exp. Biol., N.Y.*, **98**, 3, pp. 611–614, 1959.

At the Veterans Administration Hosp., Ann Arbor, Mich., passive immunization with antiserum protected mice against a number of isolates of *C. neoformans* [**3**, No. 692], *in vivo* and *in vitro* phagocytosis of the cells of which was demonstrated. The study of large and small capsule variants revealed in the former virtual resistance and in the latter relative susceptibility to ingestion by mouse polymorphonuclear leucocytes.

1340. Gadebusch (H. H.). **Phagocytosis of Cryptococcus neoformans in anemic Mice.**—*J. Bact.*, **78**, 2, pp. 259–262, 1 graph, 1959.

At the Veterans Administration Hosp., Ann Arbor, Mich., phagocytosis by polymorphonuclear leucocytes of the small capsule variant of *C. neoformans* strain E was found to be greater in anaemic (bled) mice than in normal controls. This phenomenon was not seen with strain 3723 or the large capsule variant of strain RE.

Anaemic mice injected with the last-mentioned showed a significant deferment of the onset of the disease, ascribed to increased macrophage activity.

1341. Evans (E. E.). **Reaction of an Aspergillus polysaccharide with Cryptococcus capsules and various acidic polysaccharides.**—*Proc. Soc. exp. Biol., N.Y.*, **101**, 4, pp. 760–762, 1959. [10 ref.]

When polygalactosamine produced by *A. parasiticus* (APS) was mixed with cells of *C. neoformans* at the Univ. Alabama med. Center, Birmingham, it induced a 'capsular reaction' and agglutination similar to that caused by a specific antibody. The positively charged APS molecules were further responsible for precipitation of various negatively charged (acidic) polysaccharides, including gum acacia and the capsular polysaccharides of *C. neoformans* and *Pneumococcus* types 2 and 3.

1342. Littman (M. L.) & Tsubura (E.). **Effect of degree of encapsulation upon virulence of Cryptococcus neoformans.**—*Proc. Soc. exp. Biol., N.Y.*, **101**, 4, pp. 773–777, 1 fig., 1 graph, 1959.

In experiments at Mount Sinai Hosp., New York, thinly encapsulated cells of *C. neoformans* proved to be just as virulent for Swiss mice as thickly encapsulated ones of the same strains. Moreover, cells with thin capsules promptly developed thick ones on intracerebral injection and when subcultured on synthetic capsule medium. Both types of cells induced an equal degree of hydrocephalus. Hence it is concluded that extent of encapsulation does not affect the pathogenicity of the fungus to mice.

1343. **Cryptococcosis : Clinical staff conference at the National Institutes of Health** [McCullough, N. B. (Moderator); Louria, D. B., Hilbish, T. F., Thomas, L. B., & Emmons, C. (Discussants)].—*Ann. intern. Med.*, **49**, 3, pp. 642–661, 10 fig., 1958. [Interlingua summ.]

The discussion was based on 4 case histories, presented by D. B. Louria, illustrating the clinical phases of the disease. While the true incidence of the disease is unknown, the frequency of diagnosis based on surgical and autopsy material suggests that it may in fact be a common disease. The lungs are probably the usual portal of entry. The disease frequently occurs as a terminal infection in patients with other diseases, e.g. malignant lymphoma.

Amphotericin B *per os* appears to be beneficial where the central nervous system is unaffected.

1344. Martin (W. J.), Nichols (D. R.), Svien (H. J.), & Ulrich (J. A.). **Cryptococcosis. Further observations and experiences with amphotericin B.**—*Arch. intern. Med.*, **104**, 1, pp. 4–14, 1959. [10 ref.]

This report from the Mayo Clinic, Rochester, Minn., gives full details of 5 cases of *Cryptococcus neoformans* infection [cf. above] treated with amphotericin B. In 3, arrest of the disease appeared to have been achieved.

1345. Caretta (G.). **Caratteristiche morfo-biologiche di ceppi fungini del genere Geotrichum isolati da materiale umano.** [The morphobiological characters of fungal strains of the genus *Geotrichum* isolated from human material.]—*Mycopathologia*, **11**, 3, pp. 217–237, 2 pl., 1959. [Engl. summ. 33 ref.]

An account is given of a morpho-biological study of 12 strains of *Geotrichum* isolated

from the stools of 130 patients suffering from various diseases. The strains displayed a marked homogeneity in their morphological, cultural, and biochemical characters. The colony developed from short, stout arthrospores ('chlamydosporoid arthrospores') with a dense, opaque plasma and a double wall, visible particularly at germination. Germination of ordinary arthrospores was not observed. The formation of hyaline arthrospores is described. All 12 strains are referred to *G. candidum*.

1346. Coudert (J.), Garin (J.-P.), & Saez (H.). **Quelques aspects de la géotrichose humaine.** [Some aspects of human geotrichosis.]—*J. méd. Lyon.*, **39**, 916, pp. 189–197, 1958. [Engl., Esper. summ. 20 ref.]

Geotrichum candidum is stated to occur in the alimentary tract of 25–30% of individuals and to be generally well tolerated, though there is indisputable evidence that it may on rare occasions become established in the system in the form of cutaneous, pulmonary, or digestive lesions and cause severe disturbances. Among laboratory animals only piglets have proved slightly susceptible.

1347. Webster (B. H.). **Bronchopulmonary geotrichosis : a review with report of four cases.**—*Dis. Chest*, **35**, pp. 273–281, 5 fig., 1959. [Span., Fr., and Germ. summ.]

A brief review of the literature is followed by an account of the disease (*Geotrichum candidum*) under the headings 'Symptomatology and diagnosis', 'Mycology', and 'Prognosis and treatment'. Four cases of bronchopulmonary geotrichosis, proved by repeated cultures of sputa, bronchial aspirates, and cutaneous tests, are reported, *viz.* 1 of pulmonary tuberculosis appearing 3 yr. after the diagnosis of *Geotrichum* bronchitis and continuing simultaneously, 1 of pneumonia of the right upper lobe, presenting dual cultures of Friedlander's bacillus with *G. candidum*, 1 of a bronchial infection superimposed on pulmonary emphysema, and 1 of a pulmonary infection of the left upper lobe, with patchy infiltration and cavitation, and associated septicaemia.

Treatment with iodides was successful in the cases of bronchitis, and produced gradual roentgenographic and clinical improvement in the case of the last-mentioned pulmonary infection. [For another version of this paper, without illustrations, see *Tuberculology*, **17**, 2, pp. 33–35, 38–42, 1958.]

1348. Scalia (S. P.). **A mass chest survey at a naval station in the tropics with notes on histoplasmosis.**—*Maryland med. J.*, **7**, 5, pp. 241–251, 15 fig., 1958.

In a survey of 900 American personnel and 233 dependants at the U.S. Naval Station, Rodman, Canal Zone, Panama, in 1955, 5 cases (3 active) of infection by *Histoplasma capsulatum* were demonstrated. The films were taken with a standard 70-mm. photofluorographic unit, a relatively simple and inexpensive procedure.

1349. Horton (G. E.), Larkin (J. C.), & Phillips (S.). **Acute pulmonary histoplasmosis.**—*Sth. med. J.*, **52**, 8, pp. 912–919, 5 fig., 1959. [20 ref.]

A report from the Veterans Administration (Kennedy) Hosp., Memphis, Tenn., on the infection of both lungs of a 55-yr.-old patient by *Histoplasma capsulatum*, followed by a discussion under the headings of differential diagnosis, complications, pathology and mycology, diagnostic procedures, and treatment.

1350. Edwards (Phyllis Q.), Jacobs (C. F.), & Barfield (Dorothy). **Sensitivity to tuberculin, histoplasmin and coccidioidin among high school Students in Northwestern Georgia.**—*Dis. Chest*, **34**, 5, pp. 467–483, 1 map, 6 graphs, 1958. [Span., Fr., Germ. summ.]

This paper is based on the results of a skin-testing survey (histoplasmin,

coccidioidin, and tuberculin) of pupils at 6 public high schools, organized by the Dalton-Whitfield and Murray County Health Depts, Dalton, Ga. The tests were supplemented by 70 mm. chest photofluorograms. The results indicated a striking reversal of the usual rural-urban pattern of histoplasmin sensitivity, the pupils in the urban area of Dalton having a reactor rate of 55%, compared with 22% for those living in the rural areas. Pulmonary calcifications were present in about 12% of the histoplasmin reactors. Analysis of the findings points to a source of *Histoplasma* infection, probably of several years' standing, within the city of Dalton. Coccidioidin reactions, which were of small average size, were interpreted as non-specific (or cross) reactions resulting from *Histoplasma* infection.

1351. Corbelli (G.), Mazzoni (A.), & Allegri (L.). **Su altri due casi di istoplasmosi osservati nella Clinica Medica di Bologna.** [On two further cases of histoplasmosis observed at the Medical Clinic of Bologna.]—*Minerva med., Torino*, **48**, 91, pp. 3823–3833, 31 fig., 1957.

Details are given from the Univ. Bologna of 2 fatal cases of infection by *Histoplasma capsulatum* affecting males aged 68 and 32 yr., respectively. At autopsy, the fungus was found, in the 1st case, mostly in the liver, spleen, suprarenal area, lung, myocardia, and the histoid cells of the brain, and less commonly in the parenchyma of the liver and tubular cells of the kidney. In the 2nd, there was hyperplasia of the reticulum of the liver and spleen, and the fungus was present in the viscera.

1352. Heyn (Ruth M.) & Giammona (S. T.). **Disseminated histoplasmosis treated with amphotericin B.**—*Amer. J. Dis. Child.*, **98**, 2, pp. 253–256, 1959. [21 ref.]

The favourable outcome of a 3-week course of amphotericin B therapy (total dose, 120 mg.) in a 5-month-old boy is reported from the Univ. Hosp., Ann Arbor, Mich.

1353. Howard (D. H.). **Observations on tissue cultures of mouse peritoneal exudates inoculated with Histoplasma capsulatum.**—*J. Bact.*, **78**, 1, pp. 69–78, 7 fig., 1959.

The author reports from the Sch. Med., Univ. Calif., the 1st of a series of studies to test the usefulness of cell culture techniques in studying the host-parasite relationship at cell level. When tissue cultures were inoculated with yeast cell suspensions of *H. capsulatum* at graded concentrations rising to a total inoculum of 3×10^5 yeast cells (found to produce overwhelming destruction) as few as 30 cells proved capable of initiating infection. The 'cytopathogenic effect', defined as the presence of yeast cells within the cytoplasm of the macrophages, involving their subsequent destruction, was found to increase gradually with increase of the number of cells in the inoculum. Accurate counting was impossible when more than 35–40% of the macrophages were infected. Mycelial inoculum was rapidly converted to the yeast phase, and details of the change are described.

Since *Saccharomyces cerevisiae* produced similar destructive effects in the cultures it seems that these effects may not be directly related with pathogenicity. It may be that only by developing a tissue culture medium unfavourable to extracellular fungal growth will it be possible to relate pathogenicity with the capacity to destroy tissue cultures. The effects of incorporating nystatin and amphotericin B are under study.

1354. Scherr (G. H.) & Rippon (J. W.). **Experimental histoplasmosis in cold-blooded Animals.**—*Mycopathologia*, **11**, 3, pp. 241–249, 2 fig., 1959.

The importance of —SH compounds, and of incubation at 37° C., for the conversion of mycelial *Histoplasma capsulatum* to the yeast phase in vitro is already known [**3**, No. 578]. The object of experiments at the Dept Microbiol., Univ. Illinois Coll. Med., Chicago, was to determine whether this conversion would occur *in vivo* at

temperatures other than 37° C., and whether infection by the organism requires the yeast phase, as appears essential for the establishment of this disease in mammals.

Frogs (*Rana pipiens*) and lizards (*Sceloporus undulatus* and *Eumeces fasciatus*) [cf. **3**, No. 435] were inoculated intraperitoneally with yeast and mycelial phase suspensions (0·3 ml.) and incubated at 25, 30, or 37°, being autopsied at death or 22 days after inoculation: all frogs died within 24 hr. at 37° C. The lesions, mostly of the liver or kidney, in the animals incubated at 25 or 30° ultimately became solely mycelial regardless of the phase injected, but the infections following injection with the mycelial phase and incubation at 37° all changed to the yeast phase. These results are discussed.

1355. Van Laethem (R.), Thys (A.), & Vanbreuseghem (R.). **Troisième cas congolais d'histoplasmose par Histoplasma duboisii Vanbreuseghem 1952.** [Third Congolese case of histoplasmosis caused by *H. duboisii*.]—*Ann. Soc. belge Méd. trop.*, **39**, 3, pp. 319–329, 4 fig., 1959. [Flemish, Engl., Germ., Span. summ.]

The fungus invaded the skin, glands, bones, and viscera of a 2½-yr.-old native boy, who succumbed to the disease. *H. duboisii* was isolated [**3**, No. 745] and inoculated into guinea-pigs and hamsters with positive results. Of 267 persons from the patient's village tested for histoplasmin sensitivity 68 (25·4%) reacted positively.

1356. Joe (L.-K.), Eng (N.-I. T.), Tjokronegoro (S.), Schaafma (S.), & Emmons (C. W.). **Phycomycosis of the central nervous system, associated with diabetes mellitus in Indonesia.**—*Amer. J. clin. Path.*, **32**, 1, pp. 62–70, 5 fig., 1959. [17 ref.]

This communication from the Univ. Indonesia Sch. Med., Djakarta, describes fatal mucormycosis of the central nervous system in a 15-yr.-old girl with uncontrolled diabetes mellitus, being the 1st case of this type recorded in Indonesia. On admission to hospital the patient exhibited fever, prostration, and respiratory embarrassment: there was protrusion of the left eye with total external ophthalmoplegia, the inner part of the left nasal cavity was filled with bloody crusts, and there was a necrotizing tumorous mass in the superior concha, which extended rapidly into the left inferior concha, destroying part of the septum within a week. Large hyphae were present in a biopsy sample from the nasal tumor and in fresh brain tissue removed at autopsy. No *Mucor* or related fungus occurred in cultures on Sabouraud's glucose and Littmann's ox-gall agar, but there was very heavy contamination because the brain had not been removed aseptically. There were several noteworthy histological features: the fungus showed little tendency to invade the blood vessels; there was a granulomatous tissue reaction with giant cell formation, assumed to be a response to the presence of the fungus rather than to tissue necrosis; and there was yellow, needle-like material within or in the vicinity of the hyphae, 'Phycomycosis' is proposed as a useful generic term for infection by phycomycetes. Details are tabulated of 21 similar cases reported in the literature.

1357. Russell (D. E.). **Pulmonary mycoses.**—*J. Louisiana med. Soc.*, **110**, 6, pp. 191–196, 4 fig., 2 maps, 1958.

Diagnostic procedures are outlined, mucormycosis is briefly described, and methods of therapy are indicated.

1358. Shanklin (D. R.). **Pulmonary mucormycosis complicating Cushing's syndrome.**—*Arch. Path.*, **68**, 3, pp. 262–265, 3 fig., 1959. [12 ref.]

In this case, reported from Dept Path., State Univ. N.Y., Upstate med. Center, a mucoracous fungus was demonstrated histologically in the lungs of a 54-yr.-old white man post mortem but was not cultured or identified.

1359. Blankenberg (H. W.) & Verhoeff (D.). **Mucormycosis of the lung ; a case without significant predisposing factor.**—*Amer. Rev. Tuberc.*, **79**, 3, pp. 357–361, 4 fig., 1959. [Span. Fr. summ.]

The case of mucormycosis (? *Rhizopus* sp.) here reported from the Mecklenberg Sanatorium, Huntersville, N. Carol., is unusual in that, at the time when the infection became manifest, there was no evidence of diabetes. However, 1 yr. after successful surgical removal of the major focus in the lung, glucosuria was discovered. The survival of the patient is attributed to the early surgical removal of the focus, prompt institution of general supportive measures, lack of significant complicating disease in the young patient, and withdrawal of broad spectrum antimicrobial drugs.

1360. Clark (R. M.). **A case of mucormycosis of the duodenum, liver and cecum.**—*Gastroenterology*, **33**, 6, pp. 985–990, 4 fig., 1957.

A report from the Crile Veterans Hosp., Cleveland, Ohio, on the course of the disease in a 59-yr.-old farmer, with post-mortem observations.

1361. Knoth-Born (Rita C.). **Cutane Mukorinfektion bei einer 50-jährigen Bäuerin.** [Cutaneous *Mucor* infection in a 50-yr.-old Peasant Woman.]—*Z. Haut- u. Geschlechtskr.*, **26**, 12, pp. 348–354, 10 fig., 1959.

Scales, crusts, and pus from rupia-like lesions on both lower legs of the above-mentioned patient at the Universitäts-Hautklinik, Giessen, W. Germany, yielded an *M.* sp. in pure culture, the colonies on Sabouraud's agar being whitish and those on Grütz III almost mouse-grey with a whitish centre. Far-reaching changes were revealed by histological studies. A cure was effected in 7 weeks by a combination of diverse external treatments and 30 g. potassium iodide and 8½ ampoules endoioidide i.v. taken internally.

1362. Smith (H. W.) & Yanagisawa (F.). **Rhinomucormycosis : report of a fatal case.**—*New Engl. J. Med.*, **260**, 20, pp. 1007–1012, 7 fig., 1959. [33 ref.]

The case under discussion in a 39-yr.-old coloured male patient, with a 12-yr. history of irregularly controlled diabetes mellitus, at the Grace-New Haven Community Hosp., Conn., brings the total reported to 23. The organs involved were the turbinates, ethmoid sinus and cavernous sinuses, orbit, meninges, and brain. Extensive invasion by a fungus with large, branching, continuous hyphae was observed.

1363. Correa (P.). **Blastomicosis queloideana.** [Keloid blastomycosis.]—*Rev. lat.-amer. Anat. Patol. Caracas*, **2**, 2, pp. 139–145, 2 pl., 1958. [Engl. summ.]

Report of a case from Colombia. Multiple budding cells similar to those of *Paracoccidioides brasiliensis* were observed but cultures were not obtained.

1364. De Azevedo (P. C.). **Rhinosporidium seeberi. Considerações sôbre morfologia, ciclo parasitário e posição sistemática.** [*R. seeberi.* Considerations on its morphology, parasitic cycle, and systematic position.]—*Thesis, Faculty of Medicine, University of Pará, Brazil.*, 108 pp., 27 pl., 1958. [Engl. summ. 85 ref.]

After reviewing the most important Brazilian papers on rhinosporidiosis, and all literature pertinent to the morphology and reproduction of the parasite, the author presents his own data (from about 20 Brazilian cases, a number previously published). He considers *R. seeberi* and *Dermosporidium hylarum* Carini (*Arq. Inst. Biol. S. Paulo*, **11**, pp. 93–96, 1950) from the tree frog (*Hyila rubra*) to be congeneric.

By making the new combination *R. hylarum* and giving a Latin diagnosis the author in effect proposes a new species which should be attributed to him, the basionym being illegitimate.